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Feature Article

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U.S. COAL RESOURCES AND RESERVES

INTRODUCTION

Coal comprises an estimated 90 percent of total U.S. fossil fuel proved reserves, with oil and gas accounting for approximately 5 percent, and oil shale and tar sands making up the remainder. A recent reevaluation of the Nation's oil and gas resources by the U.S. Geological Survey (USGS) suggests, however, that the percentage may be even smaller. Therefore, faced with a dwindling supply of petroleum, the rapid development of our coal resources becomes even-more important.

The President has called for a doubling of coal production by 1985 in order to meet the country's future energy needs. Much of this increase would be used to meet the growing demand for coal at electric power-plants and the projected new market at plants designed for the conversion of coal to liquid or gaseous fuel, scheduled for operation in the 1980's. Close to 65 percent of coal production is currently consumed by electric utilities. This proportion will undoubtedly increase as the Coal Conversion Program² is implemented.

This article is made up of three sections: The first defines the different categories of coal resources and provides estimates of the extent of each. The second discusses the sulfur content of coal in relation to environmental standards, and the third presents data on coal reserves on Federal and Indian lands, where a major portion of the Nation's reserves are located.

Statistics presented in this article were compiled from published and unpublished reports of USGS, the U.S. Bureau of Mines (BOM), and the U.S. Bureau of Land Management (BLM).

COAL RESOURCES AND RESERVES

As shown in Figure 1, the United States has a total of 3.2 trillion short tons of coal. However, estimates of the amount that can be extracted with current technology and under existing economic conditions range from only 217 to 258 billion short tons.

¹ FEA, *Project Independence Blueprint*, Summary Volume, November 1974.

The term "resource" refers to deposits of coal that can be currently or potentially extracted, while "reserve" applies only to the coal that can be extracted under current conditions. The major classifications and the corresponding estimates of U.S. coal resources and reserves are as follows:

Total Resources: 3.2 trillion short tons—total quantity of coal estimated to exist in the United States, including both identified and hypothetical deposits.

Identified Resources: 1.6 trillion short tons—specific deposits of coal whose quantities are known from geologic evidence supported by engineering measurements but which are not necessarily currently minable.

Demonstrated Reserves: 434 billion short tons—the amount of coal in place at depths and in seam thicknesses similar to those from which coal is currently being mined; these amounts are included within the definition of identified resources, but are based on a higher degree of geologic identification and engineering evaluation. Demonstrated reserves are also referred to as the "reserve base."

Recoverable Reserves: 217 to 258 billion short tons—the quantity of the demonstrated reserves than can actually be produced given present technological, economic, and legal constraints.³

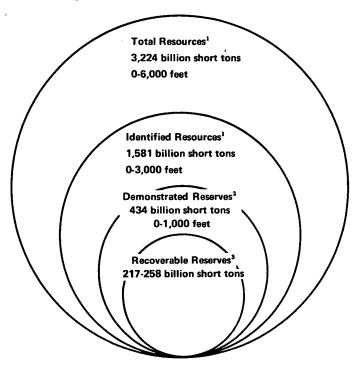
Table 1 shows additional data on resources and reserves estimated by "rank" of coal and by geographical area. Rank is determined by the percentage of fixed carbon⁴ and the heat content. Lignite has both a low heat content and a low percentage of fixed carbon, while bituminous coal, which accounts for the major share of current production, is high in both categories.

²The Coal Conversion Program was established by the Energy Supply and Environmental Coordination Act of 1974 to require certain powerplants to burn coal in place of natural gas or petroleum products.

³ There is no firm estimate of total recoverable reserves because the constraints on recoverability vary considerably from one deposit to another. Mining experience indicates that at least half of the reserve base (217 billion short tons) is recoverable on a national basis. However, recoverable reserves may be as high as 258 billion short tons when estimated on the basis of the 80-percent recoverability factor for surface coal used by the Bureau of Mines.

⁴ Fixed carbon is the solid residue that remains after the removal of ash, volatile matter, and moisture from the coal.

Figure 1. U.S. Coal Resources and Reserves



Sources:

Averitt, Paul, 1973, U.S. Mineral Resources, Coal, U.S. Geological Survey, Professional Paper 820.

Table 1. Identified Resources and Demonstrated Reserves of Coal by Rank, East and West of the Mississippi

	ld	lentified Resource	s ¹	Demonstrated Reserves ²			
Rank	East of the Mississippi	West of the Mississippi	Total	East of the Mississippi	West of the Mississippi	Total	
			In millions of	short tons			
Anthracite Bituminous Sub-bituminous Lignite	20,845 464,047 0 2,000	517 221,986 424,073 447,519	21,362 686,033 424,073 449,519	7,258 194,029 0 1,027	126 38,868 165,470 27,170	7,384 232,897 165,470 28,197	
Total	486,892	1,094,095	1,580,987	202,314	231,634	433,948	

Sources: ¹ Averitt, Paul, 1973, U.S. Mineral Resources, Coal, U.S. Geological Survey, Professional Paper 820.

² U.S. Bureau of Mines, Mineral Industry Surveys, June 1974, Demonstrated Coal Reserve Base of the United States on January 1, 1974.

Geographically, almost 70 percent of total coal resources, but only about one-half of the reserves, lies west of the Mississippi. This is because the area contains large resources of lignite which are too far below the surface of the ground to be mined under current economic and technological conditions.

Estimates of coal resources are based on virtually all the data that currently exists. Over the history of geological exploration, individual geological observations have been used to estimate the quantity and various characteristics of coal resources in specific locations; these estimates are then aggregated to give a relatively constant estimate of

²U.S. Bureau of Mines, Mineral Industry Surveys, June 1974, Demonstrated Coal Reserve Base of the United States on January 1,

³ Low figure based on a recovery estimate of 50 percent applied to the total demonstrated reserve base; high figure based on recovery estimates of 50 percent for underground mining and 80 percent for surface mining.

total coal resources. Estimates of reserves, however, are more likely to change because changes in technology, economics, and law affect minability. This is particularly true of recoverable reserves estimates.

Four major government efforts are now underway to gather additional data on coal resources and reserves. USGS is developing what is called a National Coal Data System in conjunction with State geological survey offices. Phase I will be a computerization of existing national coal resource data from published sources. Phase II will consist of assimilating unpublished coal resource data, as well as collecting new data by individual field observations and drill hole records. New resource estimates will then be calculated from the computerized data bank to provide more consistent and accurate estimates of resources in any given location and for the entire Nation. Phase II will require many years to complete for the entire country.

BOM continuously collects data on coal reserves. In June 1974, the Agency published an estimate of the demonstrated coal reserve base by State and potential mining method, as of January 1974. BOM has also recently published a detailed report on the location and characteristics of coal reserves in the eastern United States, and is preparing additional reports on reserves in the western United States.

BLM is engaged in a program to determine more accurately the status of mineral rights and surface ownership of coal-bearing lands in the west. The results of this study will enable the USGS and BOM, for the first time, to assess accurately the coal resources and reserves underlying both Federal and private lands in the western United States.

The Federal Trade Commission is collecting data on the control of coal reserves by large coal-producing companies and other companies known to have significant coal reserves.

SULFUR CONTENT OF COAL RESOURCES AND RESERVES

The sulfur content of coal has become a major environmental issue as a result of the 1970 Clean Air Act Amendments. Coal's sulfur content is measured by comparing the weight of the sulfur to the weight of the coal, while air quality is measured according to the concentration (micrograms per cubic meter) of a pollutant in the air. A relationship between these two measurements must be established in order to determine what sulfur content is compatible with air quality standards.

Pursuant to the 1970 legislation, the Environmental Protection Agency has promulgated national ambient air quality standards (pollutant concentration levels), and the States have prepared plans to implement these standards. Setting emission limitations which will meet ambient air quality standards is the first step in establishing a relationship. This is a complex procedure which employs the use of diffusion models. Emission limitations are expressed in terms of the maximum quantity of a pollutant that can be emitted per unit of heat input. Limitations imposed on existing pollution sources vary considerably from one region of the country to another. However, there is a national standard of 1.2 pounds of SO₂ (or 0.6 pounds of elemental sulfur) per million Btu of heat input for new electric powerplants or industrial plants. The second step in developing a relationship is to equate the emission standard to a sulfur content percentage using the heat content of a particular type of coal.

According to the national standard, then, coal with a heat content of 24 million Btu/short ton coal cannot contain more than 0.7 percent sulfur by weight, and 14 million Btu/short ton coal cannot contain more than 0.4 percent sulfur. Obviously, sulfur content and Btu (heat) content of coal are two factors which must be considered in meeting clean air standards. Coal with a low sulfur content may not be able to meet sulfur-emission standards if its heat content is also low.

The Btu content of coal generally decreases according to rank in the following order: (1) anthracite/bituminous, (2) sub-bituminous, and (3) lignite. Therefore, the maximum sulfur content permissible under the clean air standards also decreases in this order. However, coal with a sulfur content that does not meet clean air standards can be used by utilities if the sulfur content is reduced prior to burning by mechanical cleaning of the coal, or if the sulfur oxides are removed after combustion.

Sulfur occurs in coal in two chemical forms, organic and inorganic. Mechanical cleaning is a process in which the coal is crushed and upgraded by gravity separation. Only inorganic sulfur can be removed in this manner. Both organic and inorganic sulfur are transformed to sulfur oxides during combustion. These oxides can be removed after combustion by processes referred to as flue gas desulfurization or stack gas scrubbing. There are several scrubbing processes, the most common of which is called lime or limestone scrubbing. This method is currently considered the most effective and reliable. Scrubbers are capable of removing up to 90 percent of the sulfur oxides in the stack. Currently, however, the capital costs of sulfur removal equipment are high and the related technology is still in the developmental stage, thereby

increasing the demand for low sulfur coal. In the long term, the production of low-sulfur synthetic fuels by the gasification or liquefaction of high-sulfur coal may be a partial solution.

Figure 2 shows the percentage distribution of sulfur content for the four major ranks of coal. Most of the bituminous coal that contains 1 percent or less sulfur, and some containing 1 to 3 percent, if cleaned, can be burned without costly emission devices. Almost all sub-bituminous and lignite coal is low sulfur; but because of the lower Btu content, the amount of usable low-sulfur coal in these categories is considerably less than is usually assumed.

Figure 3 shows that 65 percent of the identified coal resources has a sulfur content of 1 percent or less. Figure 3 also indicates the geographic distribution of coal resources by both the amount and sulfur content. Over 80 percent of the coal in the western part of the Nation is low sulfur, while only 20 percent of eastern coal falls in this category. However, most of the western coal has a low heat content, being sub-bituminous and lignite (Table 1), with average heat contents of 17 million and 14.2 million Btu/short ton, respectively. These levels are considerably less than the average heat content for all U.S. coal, which is 22 million Btu/short ton.

Similar data on the sulfur content of the coal reserve base is only available for the eastern United States. Table 2 and Figure 4 show the quantity of these reserves by sulfur content and State. In total, at least 27 billion short tons or 14 percent of the eastern bituminous coal reserves, and almost all the anthracite reserves, contain less than 1 percent sulfur. The largest concentrations of low-sulfur bituminous coal are located in the Appalachian areas of West Virginia and Eastern Kentucky. Low-sulfur reserves constitute 36 percent and 51 percent of the total reserves in these two areas, respectively. Illinois, Ohio, and Western Kentucky, on the other hand, have large reserves of coal containing more than 3 percent sulfur, which represent over 60 percent of the total reserves in each State.

COAL ON FEDERAL AND INDIAN LANDS

Figure 5 shows data for coal reserves on Federal lands.⁵
There are approximately 175 billion short tons of coal reserves on Federal lands which account for 40 percent

of the total reserve base for the United States. However, only 27 billion short tons have been leased to private industry for development, and only 16 billion of this is currently recoverable.

The coal reserve base on leased Indian lands is shown in Figure 6. Currently, there is no estimate of the reserve base on unleased Indian land.

Table 3 provides information on coal production and reserves on Federal and leased Indian lands. U.S. totals are presented for comparison. As shown, the ratio of cumulative production to the reserve base is about 50 times greater for the total United States than for Federal lands.

Table 4 shows annual production figures for coal on Federal and Indian lands since 1947. Little was produced from these lands until 1971 when production increased significantly; by 1974 annual production from Federal and Indian lands was almost three times that of 1970.

Leasing of coal-bearing Federal lands was essentially halted in 1971 by BLM so that the agency could reassess their leasing policies, because only about 10 percent of previously leased acreage was being produced. In 1974 BLM proposed that lessees be held responsible for "diligent development" of the coal resources and "continuous (mining) operation." According to the proposal, those not adhering to this policy would be forced to surrender their leases. To date the overall leasing policy is still under review, and only 5 leases have been issued since the moratorium.

There have been two types of leases under the BLM system, competitive and preferential. Under competitive leasing, lease sales are advertised in a newspaper of wide local circulation for 4 consecutive weeks. Copies of the lease terms, descriptions of the tracts, and all geological data available on the coal deposits are either published or otherwise made available to prospective lessees for inspection. A lease is awarded to the individual or company that offers the highest bonus at the time of the sale. No leaseholder may hold more than 46,080 acres of land under coal leases or permits in any one State.

The preference right leasing system was included in the 1920 Mineral Leasing Act to spur exploration of unprospected western lands. When the USGS has no information about the mineral content of a tract of unclaimed, unsurveyed public land, BLM can issue a prospecting permit that allows a corporation or individual the exclusive right to prospect on that land for 2 years. An option to lease the land if coal is found in commercial quantities is also included. At the end of 2

⁵The mineral rights to Federal lands are publicly owned and administered by the Bureau of Land Management; the surface rights to Federal lands, on the other hand, may be either publicly or privately owned.

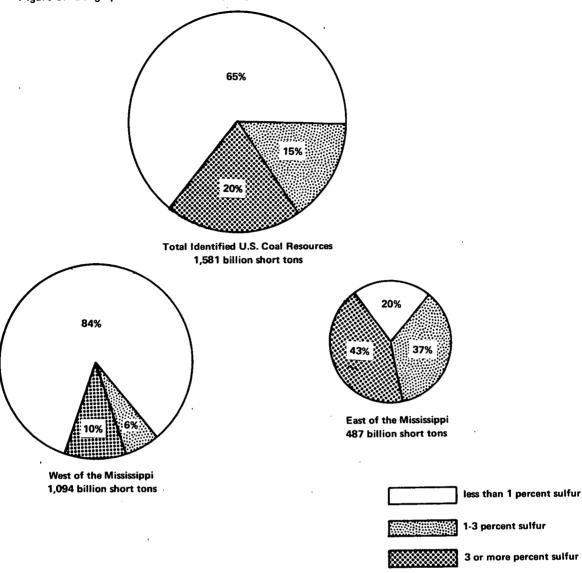
30% 27% less than 1 percent sulfur 1-3 percent sulfur 3 or more percent sulfur **Bituminous** 686 billion short tons 91% 99.6% 9% 0.4% **Sub-bituminous** Lignite 424 billion short tons 450 billion short tons Anthracite 21 billion short tons

Figure 2. Sulfur Content by Rank for Identified U.S. Coal Resources

Sources: For sulfur content: U.S. Bureau of Mines, 1966, Sulfur Content of United States Coal, IC8312.

For quantities: Averitt, Paul, 1973, U.S. Mineral Resources, Coal, U.S. Geological Survey, Professional Paper 820.

Figure 3. Geographical Distribution by Sulfur Content for Identified U.S. Coal Resources



Sources: For sulfur content: U.S. Bureau of Mines, 1966, Sulfur Content of United States Coal, IC8312.

For quantities: Averitt, Paul, 1973, U.S. Mineral Resources, Coal, U.S. Geological Survey, Professional Paper 820.

Table 2. Reserve Base of Bituminous and Anthracite Coal in the Eastern United States by Sulfur Content and State

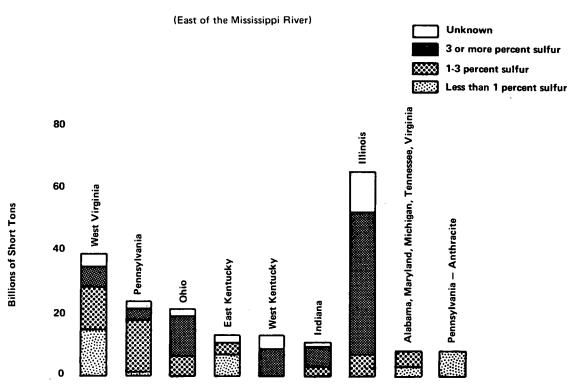
In millions of short tons

State	Less than 1.0 percent	(1.1 to 3 percent	Greater than 3 percent	Unknown	Total ¹
		•	Bituminous		
Alabama Georgia	625	1,100	16	213	1,955 1
Illinois	1,095	7,341	42,969	14,256	65,665
Indiana . Kentucky	549	3,306	5,262	1,504	10,623
East	6,558	3,322	299	2,729	12,917
West	0	564	9,244	2,816	12,624
Maryland	135	691	187	35	1,048
Michigan	· 5	85	21	7	118
North Carolina	0	0	0	32	32
Ohio	134	6,441	12,634	1,872	21,077
Pennsylvania	1,037	16,731	3,800	2,299	23,880
Tennessee	205	533	157	88	987
Virginia	2,088	1,163	14	245	3,512
West Virginia	14,092	14,006	6,823	4,652	39,590
Total ¹	26,522	55,284	81,427	30,748	194,028
Percent of Total	14	28	42	16	100
			Anthracite		
Pennsylvania	6,282	183	0	655	7,121
Virginia	53	0	0	85	137
Total ¹	6,334	183	0	740	7,258
Percent of Total	87	3	0	10	100

¹Totals may not add due to rounding. ²Less than 500,000 short tons.

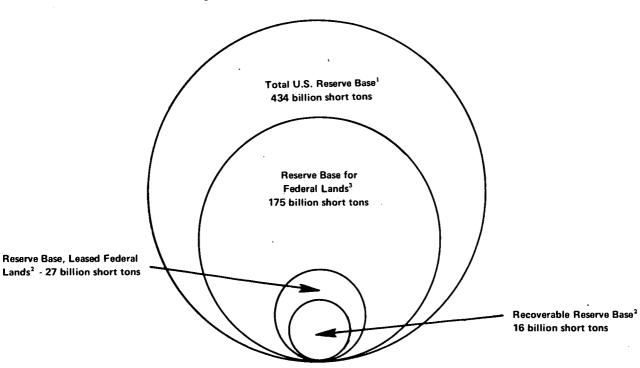
Source: 1975, The Reserve Base of U.S. Coals by Sulfur Content (East of the Mississippi), USBM, IC8680.

Figure 4. Reserve Base of Coal By Sulfur Content and State



Source: 1975, The Reserve Base of U.S. Coals by Sulfur Content (East of the Mississippi), USBM, IC8680.

Figure 5. Coal Reserve Base for Federal Lands



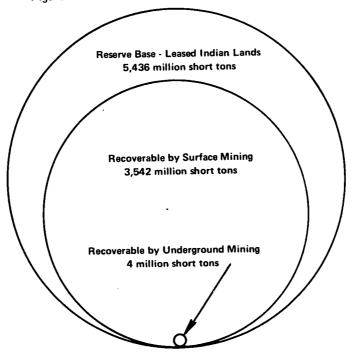
Sources:

¹U.S. Bureau of Mines, Mineral Industry Surveys, June 1974, Demonstrated Coal Reserve Base of the United States on January 1, 1974.

²U.S. Geological Survey, Summary of Coal Reserves on Federal Lands, May 1974, unpublished data.

³ Estimate is approximate, provided by U.S. Geological Survey.

Figure 6. Coal Reserve Base for Leased Indian Lands



Source: March 1975, Coal Reserve Summary of Federal Lands, U.S. Geological Survey, Conservation Division.

Table 3. Coal Production and Reserve Base for Federal and Leased Indian Lands and Total United States

Source of Production	Cumulative Production Through 1974	Reserve Base	Ratio of Cumulative Production to Reserve Base
	In millions o	f short tons	•
Federal Indian U.S. Total	314.2 66.1 40,000	175,000 5,438 433, 948	.0018 .0122 .09

Table 4. Coal Production on Federal and Indian Lands

Fiscal Year	Federal Lands	Indian Lands	Total
	In sho	ort tons	
Prior to 1947	100,892,547	6,383,021	107,275,568
1947	8,577,883	367,867	8,945,750
1948	7,432,787	944,183	8,376,970
1949	8,383,996	1,071,698	9,455,694
1950	7,527,431	150,131	7,677,562
1951	9,194,982	126,460	9,321,442
1952	7,938,467	136,196	8,074,663
1953	7,394,286	144,887	7,539,173
1954	7,267,803	126,505	7,394,308
1955	5,822,235	119,424	5,941,659
1956	5,728,643	75,947	5,804,590
1957	5,712,407	26,447	5,738,854
1958	5,218,392	76,784	5,295,176
1959	4,840,859	30,632	4,871,491
1960	5,121,297	63.886	5,185,183
1961	5,149,312	21,366	5,170,678
1962	5.748.627	17,869	5,766,496
1963	4,965,429	474,489	5,439,918
1964	5,500,794	1,622,992	7,123,786
1965	5,722,847	2,454,893	8,177,740
1966	6,230,502	2,070,202	8,300,704
1967	7,114,496	2,394,434	9,508,930
1968	6,792,370	2,356,227	9,148,597
1969	7,481,739	2,624,955	10,106,694
1970	7,444,581	4,599,577	12,044,158
1971	10,073,132	7,189,604	17,262,736
1972	10,246,150	8,719,999	18,966,149
1973	14,033,402	10,213,316	24,246,718
1974	20,631,018	11,508,231	32,139,249
Total	314,188,414	66,112,222	380,300,636

Source: 1974, Federal and Indian Lands—Coal, Phosphate, Potash, Sodium, and Other Mineral Production, Royalty Income, and Related Statistics, Fiscal Year 1973, U.S. Geological Survey.

years, the prospecting permit may be renewed for an additional 2 years if exploration has been pursued with "reasonable diligence." To retain the coal rights, the permittee must apply to BLM for a preference right lease when the prospecting permit expires. If USGS and BLM agree that commercially workable coal deposits have

been found, BLM is required to issue a preference right lease.

Table 5 shows the number of acres of Federal and Indian lands leased annually. No leases were issued during 1972, one was issued in 1973, and four in 1974. The data on preference right leases cover only the States of Wyoming, North Dakota, Colorado, Montana, Utah, and New Mexico, which are the States that have the greatest amount of coal-bearing land. It should also be noted that leasing of Indian lands is the result of negotiations between tribes and lessees, subject to the approval of the Secretary of the Interior.

Table 6 shows the number of Federally and privately owned acres overlying Federal coal leases in the coalleasing states. Private surface ownership accounts for 45 percent of the total acreage of Federal coal leases, although private ownership varies from 100 percent in three States to zero in two. The State with the largest number of acres under lease is Utah, which accounts for 37 percent of the current leases and 34 percent of the total acreage. The States of Utah, Wyoming, and Colorado together account for 76 percent of both current leases and acreage.

SUMMARY AND CONCLUSIONS

The importance of coal will increase in the future since it is by far the Nation's largest source of fossil fuel energy. There are sufficient quantities of coal reserves recoverable by current mining techniques to last at least 350 years at 1974 consumption levels. Potentially, our coal resources are great enough to last over 5,000 years. Since 40 percent of the total coal reserves of the United States is located on Federal lands in the west, the Federal Government is bound to play an important role in the future development of our coal reserves. These reserves are as yet relatively undeveloped; only 5 percent of total U.S. coal production in 1974 came from Federal and Indian lands. However, in spite of the large coal resources in the United States, including private and Federal lands, much of it contains too much sulfur to conform to clean air standards. Major advances in sulfur removal technologies are required for this country to exploit fully its vast coal resources.

Table 5. Acreage Leased on Federal and Indian Lands

		Federal L	_ands		India	n Lands
Year	Competitive Leases	Preference Right Leases	Total for Year	Cumulative Total	Total for Year	Cumulative Total
Prior to 1954	•		104,617	104,617	200	200
1954	400	0	400	105,017	0	200
1955	458	775	1,233	106,250	0	200
1956	4,316	3,852	8,168	114,418	0	200
1957	3,993	2,480	6,473	120,891	31,416	31,616
1958	15,375	10,513	25,888	146,779	0	31,616
1959	8,085	0	8,085	154,864	0	31,616
1960	4,358	498	4,856	159,720	0	31,616
1961	12,733	16,670	29,403	189,123	0	31,616
1962	39,502	7,366	46,868	235,991	. 0	31,616
1963	20,780	13,606	34,386	270,377	0	31,616
1964	10,788	6,050	16,838	287,215	36,015	67,631
1965	23,364	71,282	94,646	381,861	0	67,631
1966	44,894	9,655	54,549	436,410	40,000	107,631
1967	43,885	99,951	143,836	580,246	19,452	127,083
1968	88,181	43,105	131,286	711,532	40,281	167,364
1969	0	10,392	10,392	721,924	0	167,364
1970	18,493	9,764	28,257	750,181	16,031	183,395
1971	28,546	0	28,546	778,727	0	183,395
1972	20,010	Ō	0	778,727	61,123	244,518
1973*	241	Õ	241	778,968	14,236	258,754
1974*	4,740	320	5,060	784,028	. 0	258,754
Total	373,132	306,279	784,028	784,028	258,754	258,754

^{*}During the current lease moratorium, a total of five leases was issued in 1973-74 and designated "short term criteria leases."

Sources: 1974, Federal and Indian Lands—Coal, Phosphate, Potash, Sodium, and other Mineral Production, Royalty Income, and Related Statistics, Fiscal Year 1973, U.S. Geological Survey.

1974, Economic Priorities Report, A Study of Public and Indian Coal Leasing in the West, Vol. 5, No. 2, Published by the Council on Economic Priorities, New York, N.Y.

Table 6. Surface Ownership of Federal Lands Leased for Coal Development

		Acres		Number of
State	Private Surface	Federal Surface	Total ¹	Current Leases
Utah	13,336 ²	253,377	266,712	195
Wyoming	117,220	82,731	199,951	91
Colorado	54,607	67,472	122,078	113
Oklahoma	85,692	1,322	87,014	53
New Mexico	26,198	14,760	40,958	28
Montana	35,048	1,185	36,232	17
N. Dakota	16,436	0	16,436	18
Oregon	241	5,162	5,403	3
Alaska	1,073	1,520	2,593	4
Washington	521	O	521	2
Alabama	200	0	200	1
Ohio	0	144	144	1
California	Ŏ	80	80	1
Total ¹	350,571	427,753	778,323 ³	527

¹Totals may not add due to rounding.

Source: BLM, An Analysis of Federal Coal Leases and Reserve Adequacy for Near-Future Needs, Table B, Draft report.

² Estimated

³ The total acreage under lease varies slightly from the total in Table 5 due to minor differences in presentation of data by the two source agencies.

Overview

Production of energy in the United States during the first 5 months of this year was 4 percent below the production level for the same period of 1974. Natural gas showed the greatest decline, at 9 percent, while crude oil was down over 5 percent. These two fuels each accounted for about one-third of total domestic energy output for the period. Partially offsetting the substantial declines in natural gas and crude oil output levels was a 2-percent increase in coal production. Coal comprised one-fourth of total energy production. Although nuclear power generation contributed only 3 percent of energy output, it has increased 71 percent over the first 5 months of 1974.

Imports of fossil fuels have declined steadily since the first of the year. In December of 1974, imports averaged 42.0 trillion Btu per day. By May they were down to 31.7 trillion Btu per day, a decrease of 25 percent, which far exceeds the seasonal decline normally associated with these months. Compared with the first 5 months of 1974 when the oil embargo was in effect, however, fossil fuel imports have grown about 1 percent, reflecting a 28-percent increase in imports of crude oil. This was accompanied by declines of 24 percent and 6 percent, respectively, in imports of refined petroleum products and natural gas.

According to preliminary FEA data, Venezuela and Nigeria were the major sources of crude oil imports in May, each providing about 15 percent of the total; other OPEC countries provided 37 percent. Venezuela and the Virgin Islands were the primary sources of refined product imports, each accounting for 25 percent. Other Caribbean refineries and Canada supplied most of the remainder (36 percent).

Domestic consumption of energy for the first 4 months of the year remained at about the same level as in 1974, but was 2 percent below that for 1973. A moderate decline of 4.3 percent in natural gas use was counterbalanced by slight increases in consumption of refined petroleum products and coal. Consumption of hydroelectric power was 6 percent below the level for the first 4 months of 1974, while consumption of nuclear power was 66 percent higher.

In terms of days' supply, most petroleum stocks compared favorably with levels of a year ago. Crude oil inventories at the end of May represented a 23.9-day supply, compared with a 20.8-day supply in May of 1974. Jet fuel and residual fuel oil inventories have also grown, from a 30.7-day and a 24.1-day supply, respectively, to 32.6 days and 27.3 days. On the other hand, stocks of motor gasoline have declined from 32.4 days to 30.7 days, and distillate fuel oil stocks have dropped to a 54.4-day supply from a 57.8-day level.

Electric power production for the first 4 months of 1975 was 3 percent greater than for the corresponding period a year ago. As a consequence, utilities consumed 3 percent more coal and 8 percent more fuel oil. The balance of the production increase was provided by nuclear power, whose share of total power generation has grown from 5 percent to 9 percent over the past 12 months. Electricity output from other sources (natural gas and hydropower) has declined since last year. Kilowatt-hour sales of electricity to residential and commercial customers for the period January through March increased 7 percent and 9 percent, respectively, compared with the same months of 1974, while sales to industry declined by 4 percent. Stocks of fuels at utilities improved considerably from the end of February to the end of April. Coal inventories grew from a 71-day supply to an 85-day supply, and oil stocks increased from a 72-day supply to a 92-day supply during the 2-month period.

Retail gasoline prices advanced for the fifth consecutive month during May. The national average selling price of regular gasoline was 54.3 cents per gallon, up 0.8 cent from the 53.5-cent level in April. The price at which retailers purchased gasoline rose by a larger amount of 1.1 cents per gallon, and consequently there was a 0.3-cent decline in the dealer margin to 8.3 cents per gallon; this was the smallest margin since December 1973. In the 4 months since the implementation of the \$1-per-barrel crude oil import fee on February 1, the average retail selling price of gasoline has increased 1.8 cents per gallon, while the purchase price has increased 2.5 cents. The dealer margin has absorbed some of the impact of the fee and declined 0.7 cent per gallon.

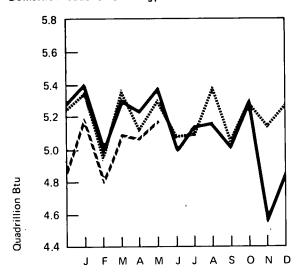
Preliminary FEA estimates indicate that 5,554 million gallons of gasoline were sold through service stations in March, a seasonal increase of 9 percent over the February total. (Gasoline sales at service stations account for about two-thirds of all gasoline sold to end users in the United States.) The share of branded independent marketers was 75.1 percent, non-branded independent marketers, 9.7 percent, and refiner-marketers, 15.2 percent.

April was the ninth consecutive month in which "new" crude oil prices advanced. The 10-cent increase brought the price to \$11.57 per barrel. However, the average price that refiners paid for domestic crude in April decreased 18 cents to \$8.38 per barrel. The average imported and composite refiner acquisition costs also declined by 11 cents and 9 cents, respectively.

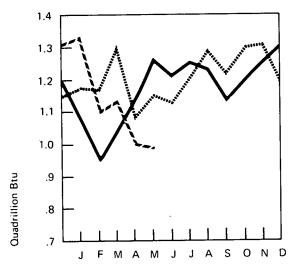
In resource development, oil and gas drilling activity continued to decline "in" May. The number of active rotary rigs fell to 1,592, the first time the rig count has

fallen below 1,600 since November 1974. Moreover, there were 316 fewer wells drilled in May than in the previous month. Compared with last May, however, 95 more wells were completed. Following a 2-month decline, the average number of seismic crews exploring for petroleum rose by 3 over April (286 versus 283). Last year there were 313 crews operating in May.

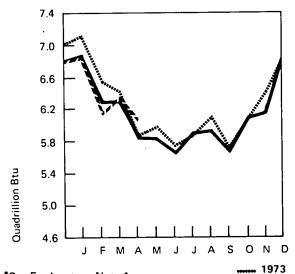
Domestic Production of Energy*



Imports of Fossil Fuels



Domestic Consumption of Energy**



^{*}See Explanatory Note 1.

1974 1975

^{**}See Explanatory Note 2.

CRUDE OIL

Crude oil production, after increasing in April to 8,682,000 barrels per day, its highest rate since August 1974, fell in May to 8,422,000 barrels per day. Compared with May 1974, production was down 550,000 barrels per day. Texas and Louisiana accounted for 78 percent of the decline.

Crude oil input to refineries continued at a level well below refinery capacity. The 11,916,000 barrels per day of crude refined in May equaled only 79 percent of operable capacity. Last year's high was about 90 percent and occurred in July.

Crude oil stocks continued to rise as a result of refinery underutilization. Crude stocks often reach an annual high in May. However, the 284,546,000-barrel inventory was the highest since May 1970; the increase during the month averaged 284,000 barrels per day.

With crude oil stocks at or near record levels, crude oil imports fell to 3,180 barrels per day, the lowest level since May 1974.

TOTAL REFINED PETROLEUM PRODUCTS

Demand for refined petroleum products continued its downward trend in May, falling to 15,344,000 barrels per day. Although May is generally the lowest demand month, petroleum consumption was well below that of May 1974 when conservation efforts were intense as a result of the embargo.

May imports of refined petroleum products declined marginally from the previous month, and approximated levels which prevailed during 1969 and 1970.

NATURAL GAS LIQUIDS

Domestic demand for natural gas liquids was 5.1 percent lower in February 1975 than in February 1974, averaging 1,512,000 barrels per day.

Imports, at 182,000 barrels per day, were 38.1 percent below those of February 1974.

NATURAL GAS

Estimated marketed production in May 1975 was 9.3 percent below the May 1974 level. During the first 5 months of 1975, marketed production totaled 8,452 billion cubic feet, 9.0 percent below the total of 9,289 billion cubic feet produced in the same period of 1974.

Imports of natural gas dipped slightly in May 1975 to 79 billion cubic feet, a level comparable to that for the same month a year ago.

Domestic producer sales to major interstate pipelines fell to 948 billion cubic feet in March 1975, down from the 1,027 billion cubic feet reported 1 year earlier. During the first 3 months of 1975, producer sales were 7.9 percent below 1974 levels.

COAL

Production of bituminous coal and lignite in May 1975 totaled 58 million tons, an increase of 0.7 million tons, or 1.2 percent, over the level for May 1974. For each month in this year so far, production has been greater than for the corresponding month in 1974.

Domestic coal consumption in April 1975 was 1.3 percent higher than in April 1974, reflecting an increase of 3.6 percent in electric utility consumption and a 3.4-percent decrease in other sectors.

Exports in April 1975 (6.2 million tons) increased for the fourth consecutive month.

Part 2

EnergySources

Crude Oil

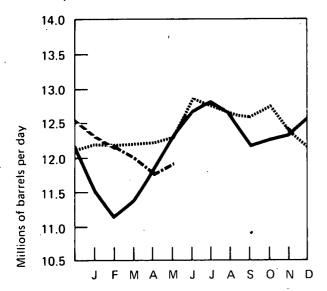
		Crude In Refinerio		Domestic Producti		Imports		Stocks*		
			In t	housands of	barrels per	day			In thousands of barrels	
		BOM	FEA	BOM	FEA	вом	FEA	BOM	FEA	
1972	January February March April May June July August September October November December	11,388 11,356 11,345 11,184 11,478 11,841 11,885 11,915 12,112 11,871 11,851 12,113		9,114 9,336 9,462 9,513 9,614 9,522 9,496 9,483 9,508 9,482 9,426 9,335		2,046 2,081 2,067 2,004 2,160 2,085 2,182 2,112 2,364 2,516 2,299 2,667		236,776 238,882 244,860 253,492 265,305 257,601 251,913 244,333 237,085 239,949 237,519 232,803		
1973	January February March April May June July August September October November December	12,190 12,187 12,201 12,208 12,281 12,862 12,750 12,635 12,560 12,758 12,374 12,150		9,179 9,395 9,272 9,292 9,262 9,214 9,217 9,169 9,065 9,224 9,161 9,063		2,732 2,873 3,162 3,049 3,215 3,220 3,501 3,593 3,471 3,739 3,452 2,891	· ,	224,056 221,893 230,696 235,383 244,777 235,846 230,750 235,660 228,280 233,520 237,001 229,504		
	January February March April May June July August September October November December	11,491 11,102 11,355 11,823 12,333 12,697 12,811 12,644 12,124 12,286 12,332 12,519	12,777 12,709 12,905 12,731 12,253 12,430 12,402 12,671	8,907 9,156 8,950 8,952 8,903 8,777 8,754 8,682 R8,432 R8,616 R8,569 R8,514	8,698 8,717 8,622 8,651 8,458 8,471	2,382 2,248 2,462 3,267 3,908 3,925 4,091 3,924 3,797 3,810 3,958 3,869	3,748 3,957 4,167 3,852 3,758 3,936 3,997 3,979	220,261 228,004 231,705 243,687 256,726 255,762 255,936 251,905 253,623 256,430 258,123 252,158	252,270 253,008 252,399 247,040 249,476 255,003 256,271 248,808	
1975	January February March April May	12,297 12,135	R12,442 12,144 11,961 R11,781 **11,916	8,439 8,575	8,644 R8,488 8,333 R8,682 **8,422	4,029 3,828	3,964 4,061 3,853 R3,402 **3,180	258,163 264,348	253,836 264,833 271,410 R275,757 **284,546	

R=Revised data.
Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated; May 1975 data are from American Petroleum Institute (API).

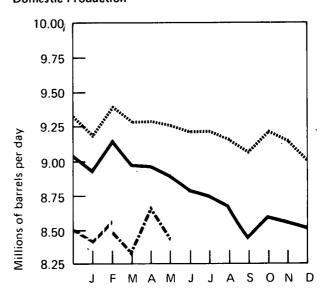
^{*}See definitions.

**Preliminary data.

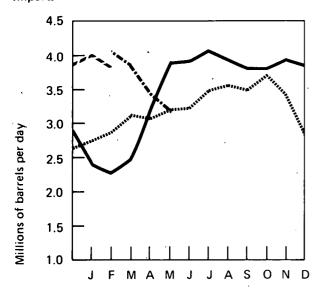
Crude Input to Refineries*.



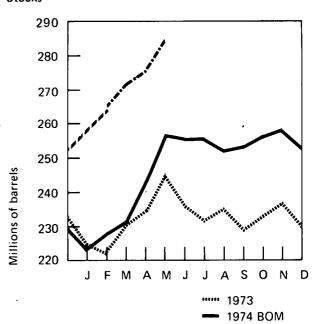
Domestic Production*



Imports*



Stocks*



-- 1975 BOM -- 1975 FEA, API

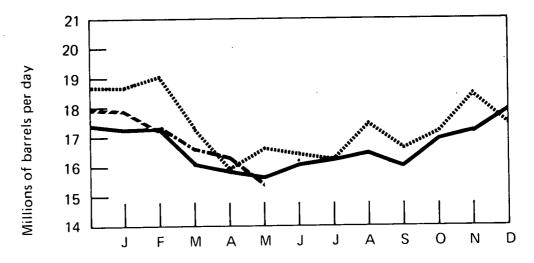
^{*}See Explanatory Note 3.

Total Refined Petroleum Products

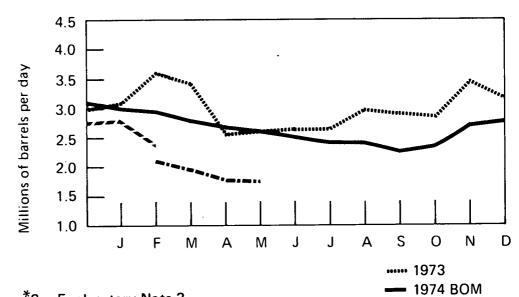
	Domesti Demand		Imports	•
	in thous	ands of ba	rrels per d	ay
	вом	FEA	BOM	FEA
February February March April May June July August September October November	16,455 17,610		2,721 2,764 2,730 2,298 2,208 2,382 2,215 2,344 2,342 2,607 2,653	
December 1973 January February March April May June July August Septembe October November December	18,713 19,094 17,216 15,921 16,626 16,481 16,372 17,499 16,656 17,202 18,492		3,039 3,125 3,635 3,448 2,545 2,626 2,670 2,678 2,999 2,941 2,894 3,470 3,164	
1974 January February March April May June July August Septembe October November December	17,025 17,214 1 7,997	15,740 16,191 15,853 15,803 16,318 17,121 17,129 17,588	2,973 2,973 2,753 2,703 2,580 2,493 2,397 2,434 2,225 2,340 2,704 2,781	2,454 2,218 2,140 2,281 2,180 2,361 2,581 2,638
1975 January February March April May	17,983 17,248	18,112 17,370 16,567 R16,374 '*15,344	2,811 2,348	2,484 2,138 R1,920 R1,783 **1,768

^{*}See definitions. **Preliminary data. R=Revised data.
Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated;
May 1975 data are from American Petroleum Institute (API).

Domestic Demand*



Imports*



*See Explanatory Note 3.

1975 BOM
1975 FEA, API

Motor Gasoline

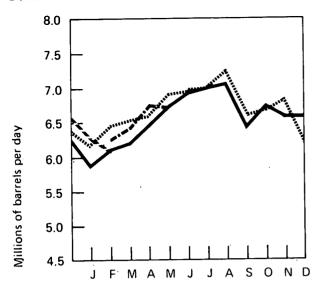
		Domestic Demand		Production	on*	Import	ts	Stocks*	
			In tho	In thousands of barrels per day				In thousands of barrels	
		BOM	FEA	BOM	FEA	вом	FEA	ВОМ	FEA
1972	January February March April May June July August September October November December	5,549 5,710 6,412 6,283 6,445 6,822 6,673 6,938 6,453 6,350 6,479 6,378	o	6,151 5,989 5,913 5,833 6,023 6,244 6,612 6,588 6,605 6,532 6,436 6,424	,	51 66 67 52 74 75 69 81 70 71 69		239,633 249,927 236,831 225,153 214,736 200,710 192,706 199,690 207,776 208,930 212,770	· - ·
	January February March April May June July August September October November December	6,118 6,437 6,513 6,541 6,907 6,964 7,023 7,257 6,581 6,677 6,823 6,237		6,341 6,855 6,150 6,377 6,714 6,993 6,986 6,880 6,619 6,621 6,375 6,099		59 95 71 63 101 174 133 164 127 194 216 202	,	221,823 216,367 207,581 204,708 202,081 208,374 211,488 205,122 210,278 214,525 207,343 209,395	
	January February March April May June July August September October November December January	5,804 6,100 6,162 6,457 6,745 6,919 6,959 7,061 6,388 6,712 6,547 6,558 6,206	6,406 6,895 6,941 6,849 6,652 6,542 6,659 6,551 6,228	5,900 5,969 5,982 6,311 6,328 6,663 6,792 6,815 6,453 6,336 6,292 6,419	6,301 6,642 6,835 6,776 6,485 6,340 6,257 6,451	163 184 225 260 250 211 212 253 202 171 174 141	228 145 122 192 140 175 264 170	217,463 219,058 220,307 223,752 218,670 217,381 218,838 218,951 227,031 220,748 218,385 224,719	229,878 226,652 227,195 231,015 230,181 229,275 225,226 227,363
18/5	January February March April May	6,096 F	6,228 6,205 6,408 R6,740 *6,710	6,509 6,276	6,574 6,279 R6,068 R5,999 **6,087		. 203 R168 R146 R122 *117		244,425 251,189 245,181 R232,482 *206,129

Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated; May 1975 data are from American Petroleum Institute (API).

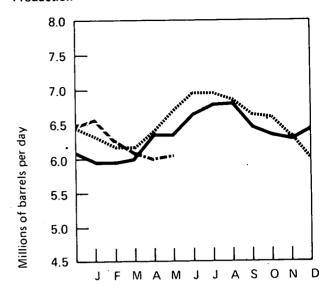
^{*}See definitions.

**Preliminary data.
R=Revised data.

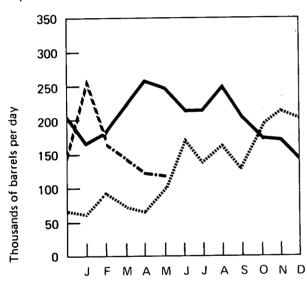
Domestic Demand*



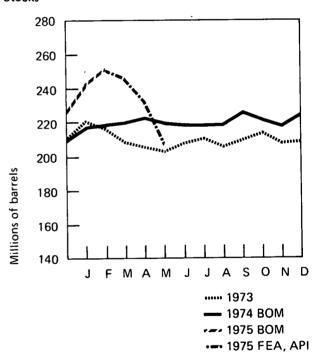
Production*



Imports*



Stocks*

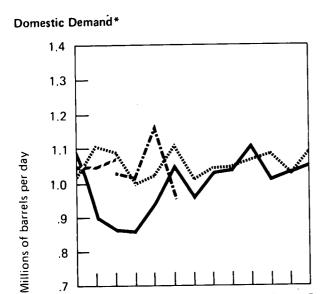


*See Explanatory Note 3.

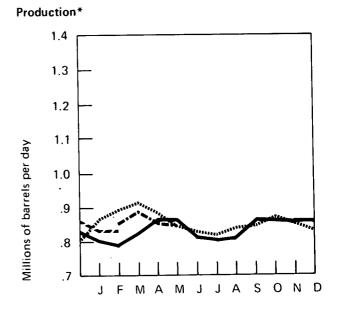
	Domestic Demand	Production	Imports	Stocks
	lr	n thousands of barrels	per day	in thousands of barrels
	BOM FEA	BOM FEA	BOM FEA	BOM FEA
1972 January February March April May June July August September October November December	1,021 1,141 1,008 986 999 1,163 1,000 946 1,035 1,171 .1,050 1,030	784 900 906 877 887 859 873 837 810 822 800	179 220 167 124 159 292 165 181 190 286 184	25,857 25,230 27,147 27,568 28,885 28,356 29,429 31,649 30,597 28,633 26,650 25,493
1973 January February March April May June July August September October November December	1,110 1,090 994 1,015 1,112 1,007 1,046 1,049 1,070 1,104 1,025 1,087	864 898 917 887 840 836 825 844 847 875 852 830	231 221 152 145 211 164 232 180 235 246 275 259	24,814 25,437 27,585 27,881 25,825 25,447 25,661 24,851 25,149 25,577 28,539 28,544
1974 January February March April May June July August September October November December	895 860 956 941 1,053 952 1,016 1,028 1,032 1,031 1,076 1,109 1,100 1,011 1,092 1,032 1,035 1,043 1,138	800 783 832 868 868 873 810 886 802 813 805 849 867 883 868 905 863 861 908	136 75 139 132 205 97 141 115 214 188 206 202 217 183 161 216 140 222 178 219	29,732 29,617 29,996 31,725 32,324 33,574 32,200 33,128 31,671 32,231 30,989 31,594 30,186 30,587 30,564 31,488 29,616 31,303 29,776 30,957
February February March April May	1,041 1,001 1,075 R1,032 1,018 R1,168 *954	831 847 835 849 892 859 *846	229 164 200 R167 R136 R192 *152	30,321 31,221 29,133 30,641 30,906 R31,998 *31,099

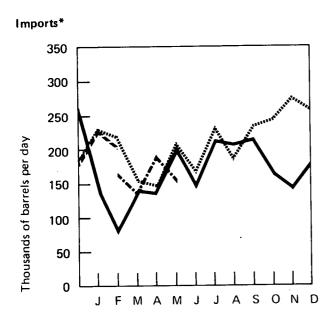
^{*}Preliminary data. R=Revised data.

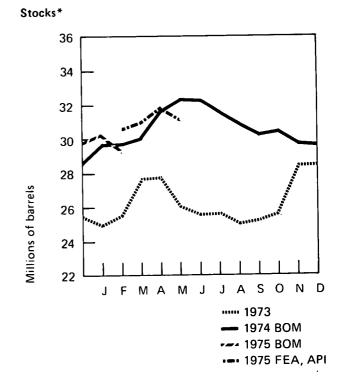
Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated; May 1975 data are from American Petroleum Institute (API).



O N D







*See Explanatory Note 3.

Distillate Fuel Oil

		Domestic Demand	;	Produc	tion*	Imports	s	Stocks*	
			In thou	isands of b	arrels per d	lay		In thousa of barrels	
		ВОМ	FEA	BOM	FEA	вом	FEA	ВОМ	FEA
1972	P January February March April May June July August September October November December	3,723 4,164 3,482 2,778 2,250 2,194 1,765 2,064 2,205 2,759 3,383 4,232		2,538 2,653 2,564 2,476 2,585 2,623 2,529 2,582 2,624 2,722 2,719 2,938		197 204 257 189 132 96 97 92 99 203 227 382		160,027 122,154 101,728 98,288 112,892 128,739 155,557 174,674 190,250 195,530 182,581 154,284	
	February February March April May June July August September October November December	4,138 4,302 3,337 2,635 2,673 2,419 2,328 2,555 2,675 2,930 3,508 3,690		3,028 2,937 2,667 2,510 2,544 2,825 2,752 2,801 2,813 2,911 2,922 3,136		364 731 602 240 268 222 318 288 313 451 492 439		130,958 113,276 111,270 114,698 119,104 137,844 160,869 177,271 190,171 202,965 200,182 196,421	
	January February March April May June July August September October November December	3,820 3,835 3,145 2,848 2,453 2,386 2,302 2,295 2,377 2,863 3,145 3,855	2,616 2,249 2,251 2,271 2,473 2,816 3,058 3,923	2,880 2,399 2,226 2,522 2,704 2,783 2,792 2,704 2,551 2,770 2,801 2,924	2,741 2,818 2,881 2,779 2,655 2,787 2,883 3,028	449 293 267 216 271 228 214 111 144 213 443 517	288 175 168 112 143 264 403 466	181,179 149,125 128,822 125,553 141,806 160,645 182,458 198,673 208,269 209,908 212,875 223,717	151,345 173,639 198,374 217,632 227,069 234,257 241,125 227,877
1975	January February March April May	3,953 3,967	4,055 4,004 3,460 R3,290 **2,526		2,954 2,707 2,614 R2,538 *2,420	324 302	350 295 217 R131 **170	199,715 176,696	204,576 176,530 156,980 R145,226 **137,397

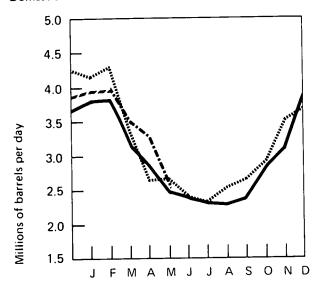
Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated; May 1975 data are from American Petroleum Institute (API).

^{*}See definitions.

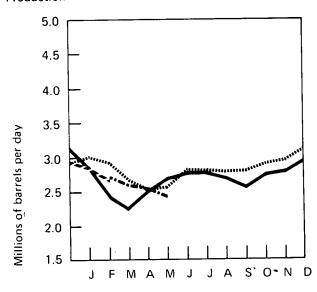
**Preliminary data.

R=Revised data.

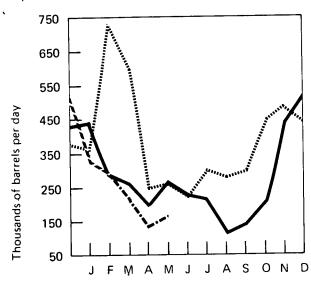
Domestic Demand*



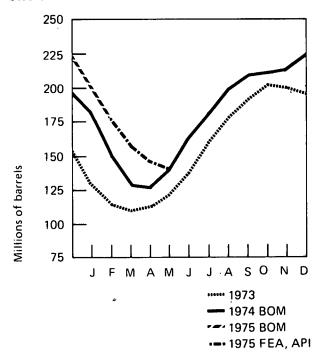
Production*



Imports*



Stocks*



*See Explanatory Note 3.

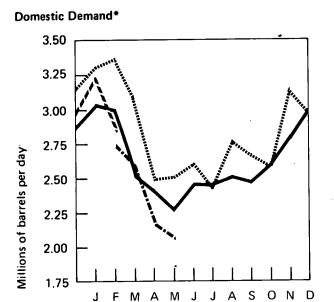
Residual Fuel Oil

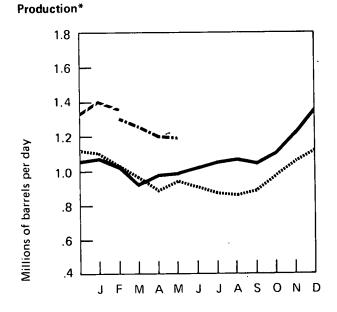
	Domestic							
	Demand		Produc	tion	Imports		Stocks	
		ln th	oucondo o	f barrels per			In thous	
	BOM I	FEA		•	•		of barre	
1972 January	2,815	FEA	BOM	FEA	вом	FEA	BOM	FEA
February	2,615 3.171		924 963		1,892		59,440	
March	2,682		828		1,923		50,891	
April	2,444		739		1,926 1,676		51,566	
May	2,111		664		1,573		49,425 53,035	
June	2,196		661		1,649		56,109	,
July	2,107		673		1,594		60,230	
August	2,257		674		1,653		61,399	
September	2,239		710		1,625		63,692	•
October	2,362		745		1,655		63,758	
November	2,843		890		1,769		57,702	
December	3,151		1,124		1,968		55,216	
1973 January	3,306		1,112		2,019		49,154	
·February March	3,382		1,038		2,147		43,058	
April	3,084 2,477		955 877		2,196		44,711	
May	2,521		. 948		1,705 1,668		47,044	
June	2,607		915		1,761		49,207 51,811	
July	2,412		882		1,597		53,363	
August	2,755		851		1,913		53,586	
September	2,676		878		1,849		55.091	
October	2,590		984		1,597		54,964	
November	3,158		1,061		1,979		51,985	
December	2,944		1,158		1,826		53,480	
1974 January	3,035		1,072		1,732		46,548	
February	3,010		1,029		1,923		45,004	
March	2,516		912		1,674		47,222	
April May	2,432 2,251	2,111	984	000	1,587	4.050	51,339	
June	2,455	2,111	995 1,026	992 1,058	1,353	1,250	54,356	64,548
July	2,432	2,177	1,056	1,056	1,549 1,433	1,260 1,197	57,891 59,787	68,646
August	2,539	2,368	1,067	1,126	1,530	1,197	60,988	73,066 76,011
September	2,454	2,419	1,032	1,070	1,400	1,274	60,251	72,723
October	2,610	2,501	1,099	1,112	1,464	1,369	58.679	72,723
November	2,819	2,631	1,229	1,226	1,636	1,453	60,363	73,581
December	2,965	2,881	1,335	1,350	1,612	1,561	74,939	74,521
1975 January	3,242	3,103	1,415	1,399	1,647	1,529	69.233	68,628
February	2,849	2,723	1,354	R1,304	1,402	1,308	66,495	65,061
March	_	2,589		1,244		1,252	-	61,891
April May		32,167		R1,196		R1,068		R64,138
iviay		*2,069		1,187		*1,045		*56,544

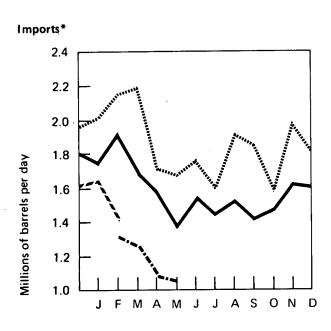
Sources: Bureau of Mines (BOM) and Federal Energy Administration (FEA) as indicated; May 1975 data are from American Petroleum Institute (API).

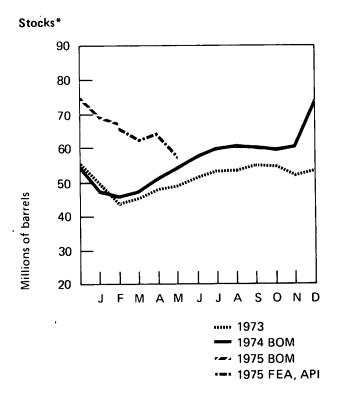
^{*}Preliminary data.

R=Revised data.







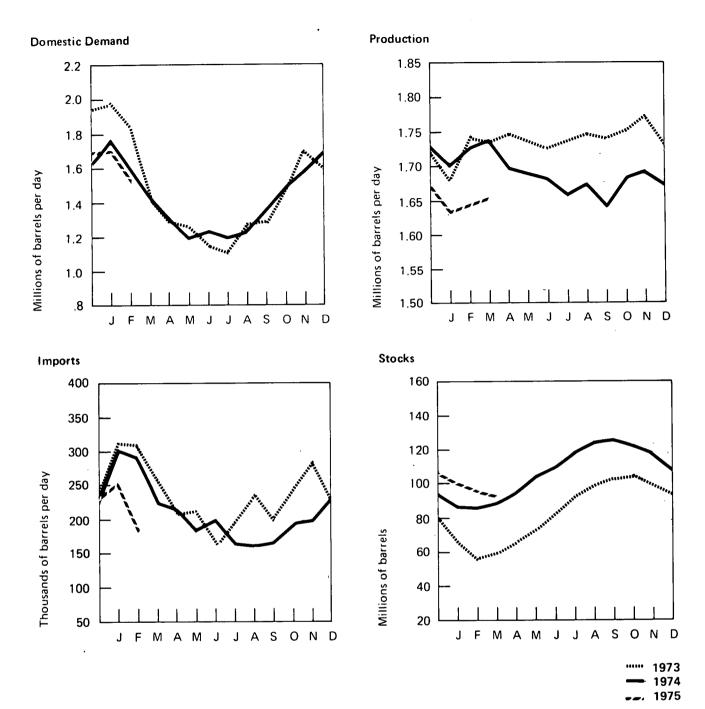


*See Explanatory Note 3.

Natural Gas Liquids

		Domestic Demand*	Production*	Imports	Stocks*
		In	In thousands of barrels		
1972	January February March April May June July August September October November	1,746 1,752 1,417 1,181 · 995 1,114 1,121 1,243 1,244 1,525 1,768	1,705 1,747 1,768 1,769 1,737 1,734 1,731 1,739 1,751 1,769 1,757	196 182 186 118 147 134 141 164 168 202 221	76,704 68,232 68,777 75,101 84,984 92,831 100,363 104,397 108,853 105,098 94,673
1973	December January February March April May June July August September October November December	1,946 1,994 1,857 1,407 1,299 1,270 1,149 1,109 1,281 1,297 1,499 1,703 1,607	1,721 1,680 1,745 1,734 1,750 1,739 1,727 1,737 1,748 1,741 1,756 1,774 1,729	231 313 312 260 201 216 163 199 239 206 249 286 231	79,238 64,343 55,997 58,471 65,297 73,942 83,057 93,362 98,996 103,907 104,215 98,320 94,106
1974	January February March April May June July August September October November December	1,779 1,593 1,408 1,321 1,181 1,242 1,187 1,221 1,359 1,493 1,596 1,692	1,699 1,728 1,741 1,696 1,689 1,684 1,657 1,676 1,638 1,686 1,694 1,670	305 294 224 215 182 200 163 163 167 200 199 230	85,820 84,737 89,362 95,707 104,739 111,356 118,804 125,120 126,454 123,634 118,026 108,377
1975	January February March	1,708 1,512	1,630 1,646 **1,655	257 182	98,843 94,683 93,111

^{*}See Explanatory Note 4.
**Preliminary data.
Source: Bureau of Mines.



Natural Gas

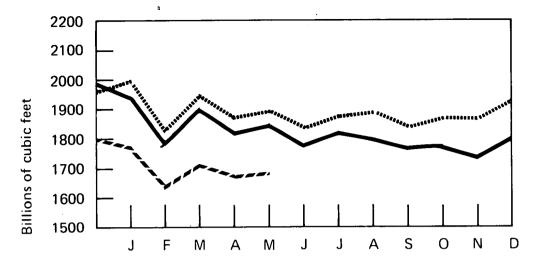
		Marketed Production	Domestic Producer Sales to Major Interstate Pipelines	Imports
			In billion cubic feet	
1972	January February March April May June July August September October November	1,994 1,902 1,937 1,893 1,867 1,797 1,837 1,859 1,854 1,889	1,086 1,035 1,091 1,050 1,045 985 1,013 1,007 970 1,040	117 112 88 134 111 108 102 97 114 103
	December	1,961	1,065	111
1973	January February March April May June July August September October November December	1,994 1,821 1,952 1,864 1,898 1,839 1,880 1,840 1,840 1,875 1,863 1,926	1,069 963 1,052 1,007 1,026 963 999 994 956 1,001 1,000 1,038	93 84 91 88 86 79 80 85 82 91 85
1974	January February March April May June July August September October November December	1,944 1,773 1,907 1,812 1,853 1,777 1,827 1,797 1,761 1,775 1,735 1,800	1,033 941 1,027 987 981 928 947 932 871 936 921	86 79 85 83 80 74 74 76 70 83
1975	January February. March April May	1,771 1,627 R*1,714 R**1,660 **1,680	950 867 948	81 75 R83 R**81 **79

Sources: Marketed Production and Imports—Bureau of Mines. Domestic Producer Sales—Federal Power Commission.

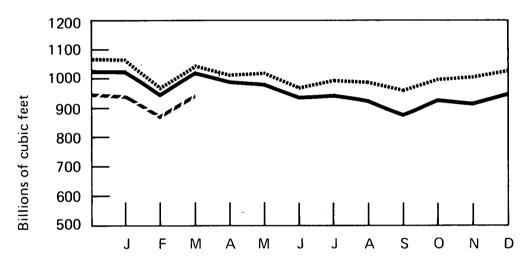
^{*}Preliminary data.
**Projected data.

R=Revised data.

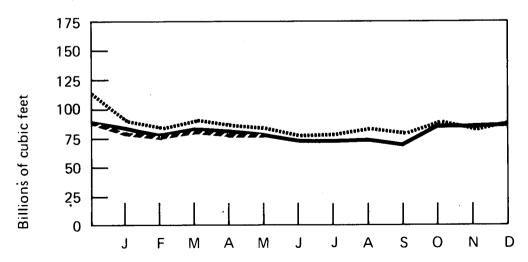
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



1974

Coal

Bituminous and Lignite

	J	Domestic Consumption*	Production**	Exports	Stocks	
		In thousands of short tons				
1972	January	43,951	49,680	3,660	91,178	
	February	43,178	49,112	3,630	92,183	
	March	43,773	54,438	4,624	96,795	
	April	40,158	49,814	4,915	102,981	
	May	40,588	52,879	5,416	110,577	
	June	40,505	50,083	4,882	115,723	
	July	43,071	40,964	3,627	111,353	
	August	44,698	52,169	6,337	114,665	
	September	42,002	49,374	4,923	116,196	
	October	43,050	51,671	5,210	120,135	
	November	44,104	50,297	5,380	121,401	
	December	47,698	44,904	3,392	117,442	
1973	January	49,838	49,379	2,954	111,120	
	February	44,652	45,893	2,669	108,870	
	March	44,814	50,547	3,377	111,490	
	April	42,689	46,999	5,063	112,585	
	May	43,628	51,420	5,140	116,890	
	June	45,115	46,613	4,969	109,960	
	July	47,715	43,801	4,188	107,390	
	August	48,840	55,874	5,133	106,910	
	September	45,471	48,338	3,424	106,230	
	October	46,427	54,382	5,882	107,490	
	November	46,703	49,826	5,214	107,169	
	December	50,130	48,666	4,889	103,022	
1974	January	50,063	53,530	2,813	97,614	
	February	45,252	49,851	4,627	96,420	
	March	45,408	51,027	3,179	99,895	
	April	43,195	54,181	4,944	R106,972	
	May	44,612	57,448	6,032	110,190	
	June	44,461	47,884	6,369	112,030	
	July	48,187	49,206	5,307	106,491	
	August	48,647	51,604	5,088	105,810	
	September	44,371	52,472	4,893	109,205	
	October	45,670	60,293	7,342	116,514	
	November	44,589	33,524	6,744	108,710	
	December	47,436	39,980	2,587	95,572	
1975	January	49,669	54,885	4,254	95,158	
	February	R45,725	R51,135	4,470	R97,164	
	March	47,396 42,764	R52,630	5,653	97,904	
	April May	43,761	54,885 ***58,150	6,159	102,745	
	iviay		50,150			

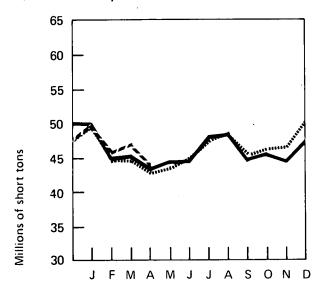
Source: Bureau of Mines.

^{*}See Explanatory Note 5.

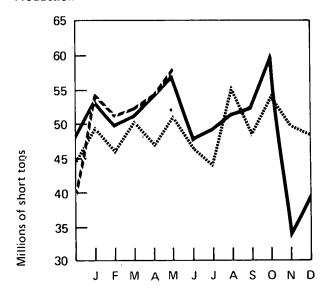
**See Explanatory Note 6.

***Preliminary data.
R=Revised data.

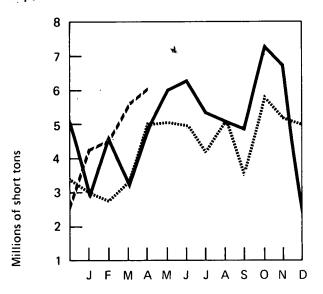
Domestic Consumption



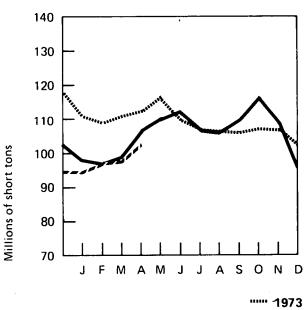
Production



Exports



Stocks



ELECTRIC UTILITIES

April 1975 production of electricity by utilities declined seasonally to 145,287 million kilowatt hours, down 6.2 percent from the 154,932 million kilowatt hours produced in March 1975. However, production in April was 2.4 percent above the level for the same month last year.

Electricity production during the first 4 months of 1975 was 610,055 million kilowatt hours, up 3.2 percent from the 591,123-million kilowatt-hour level for the same period in 1974.

Coal stockpiles at powerplants increased from a 71-day supply at the end of February to an 85-day supply at the end of April. Oil stockpiles at powerplants increased from a 72-day supply to a 92-day supply during the same 2-month period.

Kilowatt-hour sales to residential and commercial customers in March 1975 were 46,154 and 29,309 million kilowatt hours, respectively, up 8.3 percent and 9.2 percent from March 1974.

Kilowatt-hour sales to industry in March (53,182 million kilowatt hours) represented a 5.0-percent decline compared with sales in March 1974.

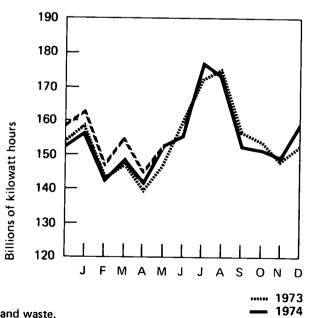
Part 3



Electric Utilities

		Total Production		Percentage Produced from Each Source					
		In millions of					Hydro-		
		kilowatt hours	Coal	Oil	Gas	Nuclear	electric	Other*	
1972	January	144,575	45.4	17.9	16.6	2.9	16.9	0.3	
	February	137,301	45.7	17.3	18.0	2.6	16.1	0.3	
	March	140,056	44.3	15.2	20.0	3.0	17.2	0.3	
	April	132,138	43.6	13.4	22.3	2.7	17.7	0.3	
	May	137,745	43.3	12.7	24.0	2.1	17.6	0.3	
	June	145,523	42.3	13.3	25.5	2.6	15.9	0.4	
	July	157,846	42.1	14.1	25.7	2.9	14.9	0.3	
	August	162,822	42.8	13.7	25.7	3.5	13.9	0.4	
	September		43.4	14.7	25.5	3.2	12.9	0.3	
	October	143,742	44.3	14.1	25.2	3.2	13.0	0.2	
	November	143,867	45.7	18.3	17.2	3.7	14.8	0.3	
	December	154,350	45.9	19.5	14.4	3.9	16.0	0.3	
1973	January	159,320	47.2	19.3	13.1	3.9	15.8	0.7	
	February	143,109	47.4	18.1	14.0	4.1	16.0	0.4	
	March	147,754	45.6	16.2	16.2	4.5	17.2	0.3	
	April	139,273	46.0	14.4	17.9	4.2	17.2	0.3	
	May	147,021	44.2	14.6	20.2	3.8	16.8	0.4	
	June	160,962	43.5	16.0	21.6	4.2	14.5	0.2	
	July	172,539	44.1	16.5	22.5	4.0	12.7	0.2	
	August	175,928	44.5	17.2	21.6	4.4	11.9	0.4	
	September		45.6	17.2	21.0	4.9	11.0	0.3	
	October	153,888	45.6	17.6	19.8	4.8	11.8	0.4	
	November December	140,785	47.3	16.6	16.5	5.7	13.5	0.4	
		153,276	47.9	16.3	13.2	5.1	17.1	0.4	
1974	January	156,906	47.0	16.6	13.3	4.8	18.2	0.1	
	February	142,371	46.6	15.7	13.3	5.6	18.6	0.2	
	March	149,933	45.3	14.6	15.8	5.8	18.4	0.1	
	April	141,913	44.5	13.9	16.9	4.9	19.6	0.2	
	May	153,439	44.3	14.7	18.4	4.2	18.2	0.2	
	June	156,027	43.3	14.7	20.3	4.4	17.1	0.2	
	July	177,797	42.9	15.6	20.9	5.6	14.8	0.2	
	August	173,699	43.1	15.6	20.3	7.0	13.8	0.2	
	September	152,083	42.9	16.4	19.3	7.1	14.1	0.2	
1	October	151,786	44.3	16.7	18.6	7.0	13.2	0.2	
	November December	149,581	44.9	18.4	15.2	7.2	14.1	0.2	
	December	159,309	45.6	19.3	12.4	8.1	14.4	0.2	
1975	January	163,498	45.8	18.7	12.1	8.1	15.2	0.1	
	February	146,338	46.0	17.0	12.3	8.3	16.3	0.1	
	March	R154,932	44.6	15.0	12.9	9.2	18.1	0.2	
	April	R145,287	44.2	14.6	14.0	8.7	18.3	0.2	
	May	153,300							

Total Production



1975

Sources: Federal Power Commission.

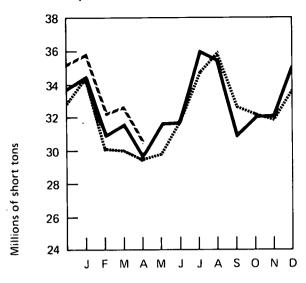
Production data for latest month are from Edison Electric Institute.

^{*}Includes electricity produced from geothermal power, wood, and waste. R=Revised data.

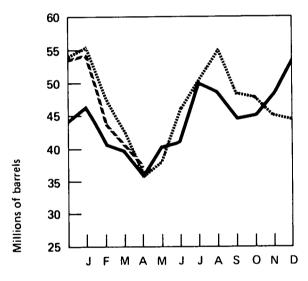
Fuel Consumption

	Coal	Oil	Gas
	In thousands	In thousands	In millions
	of short tons	of barrels	of cubic feet
1972 January	30,231	46,555	251,029
February	28,946	43,325	258,859
March	28,472	38,809	294,804
April	26,093	32,325	312,229
May	26,823	32,106	351,543
June	27,749	35,098	394,585
July	30,214	40,646	433,533
August	31,651	41,073	448,594
September	28,988	38,723	398,799
October	29,133	42,876	337,567
November	29,926	47,914	262,447
December	32,817	54,479	234,683
1973 January	34,591	55,773	219,270
February	30,921	46,978	212,983
March	30,746	42,701	255,314
April	29,209	35,845	267,151
May	29,683	38,097	316,989
June	31,953	46,669	363,239
July	34,833	50,956	414,408
August	36,065	55,166	482,053
September	32,723	47,937	418,776
October	32,398	48,033	327,010
November	31,856	45,158	247,038
December	33,704	44,696	217,049
1974 January	34,599	46,745	219,338
February	30,857	40,687	201,587
March	31,638	39,645	254,175
April	29,679	35,959	259,313
May	31,700	40,831	306,945
June	31,719	41,227	346,584
July	36,111	50,119	403,391 380,585
August	35,555	48,970	313,079
September	30,989	44,550 45,268	298,109
October	32,127 32,211	48,525	238,908
November	35,176	53,648	207,095
December		•	•
1975 January	35,853	54,169	204,931
February	32,104	43,670	188,684
March	32,783	40,399	210,283
April	30,452	37,099	213,580

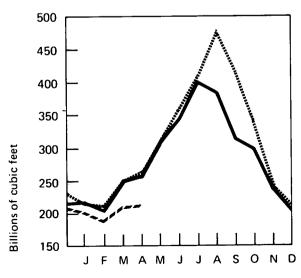
Coal Consumption



Oil Consumption



Gas Consumption



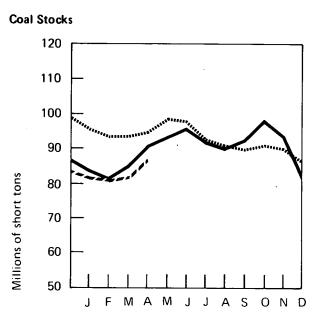
1973 1974 1975

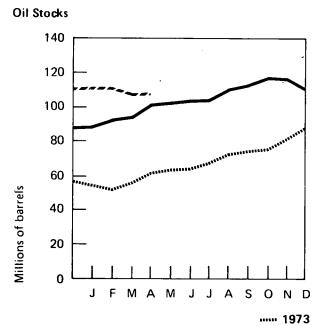
Source: Federal Power Commission.

Electric Utilities (Continued)

Stocks at End of Month

		Coal	Oil
		In thousands of short tons	In thousand of barrels
1972	January February March April May June July August September October November December	76,876 77,138 80,296 84,984 91,778 96,553 93,760 96,611 98,396 102,205 102,477 98,671	46,055 47,111 52,213 55,730 57,399 58,815 60,786 66,024 66,004 65,531 62,067 57,686
1973	January February March April May June July August September October November December	95,017 92,993 93,986 94,991 98,722 97,995 92,215 91,356 90,156 91,428 90,369 86,880	53,691 50,858 54,885 62,411 64,259 65,003 67,987 73,259 74,863 76,343 81,224 88,228
1974	January February March April May June July August September October November December	83,366 80,962 84,257 90,901 93,628 95,811 91,616 89,691 92,704 98,373 93,825 83,652	89,053 92,645 94,187 100,210 103,606 104,316 105,919 110,997 113,570 117,564 116,558 111,990
1975	January February March April	81,429 81,065 81,872 86,656	110,304 111,581 113,377 113,930





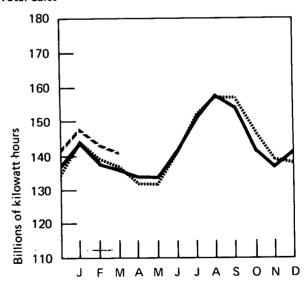
Source: Federal Power Commission.

— 1974 7— 1975

Sales

		Residential	Commercial	Industrial	Other*	Total
			In millions	of kilowatt ho	urs	
1972	January February March	46,353 45,652 43,559	27,965 27,921 27.856	50,526 50,552 52,086	4,579 4,619 4,606	129,423 128,744 128,107
	April May June	40,460 38,044 41,213 47,813	27,765 27,983 30,257 32,211	51,992 53,489 53,673 52,702	4,422 4,430 4,469 4,666	124,639 123,946 129,612 137,392
	July August September October November	51,463 50,888 44,352 41,672	33,535 33,522 31,068 29,426	55,023 55,548 56,213 55,251	4,723 4,928 4,823 4,986	144,744 144,886 136,456 131,335
1973	December January February	47,139 52,840 49,601	29,764 31,182 30,445	53,923 55,274 54,591	5,060 5,209 4,909	135,886 144,505 139,546
	March April May	46,315 41,821 39,825	30,100 29,038 30,060	55,866 55,937 56,838 57,368	4,822 4,571 4,638 4,764	137,103 131,367 131,361 140,293
	June July August September	44,967 54,123 56,742 56,210	33,194 36,147 36,820 36,711	57,366 57,152 58,865 59,178	5,140 5,054 5,211	152,562 157,481 157,310
	October November December	47,207 43,175 46,442	33,289 31,363 29,788	60,514 58,464 56,190	5,032 5,085 4,896	146,042 138,087 137,316
1974	January February March April May	52,846 47,832 46,154 43,294 41,215	30,608 29,542 29,309 28,986 29,876	55,754 54,978 55,999 56,497 57,386	4,995 4,708 4,693 4,610 4,685	144,203 137,060 136,155 133,387 133,162
	June July August September	46,596 53,435 56,558 53,252	32,800 35,229 36,414 35,830	58,077 57,899 59,803 60,366	4,641 4,965 5,069 4,983 4,792	142,114 151,528 157,844 154,431 141,134
	October November December	44,177 42,773 50,368	32,112 30,968 31,757	60,053 57,361 53,878	4,969 4,974	136,071 140,977
1975	January February March	55,547 52,185 49,974	33,026 32,441 32,005	54,280 53,142 53,182	5,245 4,984 4,914	148,098 142,752 140,074





^{*}Includes street lighting and trolley cars. Source: Federal Power Commission.

NUCLEAR POWER

One U.S. nuclear powerplant, Calvert Cliffs 1 (800 megawatts), located in Maryland near Washington, D.C., came into commercial operation during May. The plant is owned by Baltimore Gas and Electric Company.

One foreign plant, Barsebaeck 1 (580 megawatts), near Malmo, Sweden, came on line during May.

Both domestic and foreign capacity factors for May were lower than the average values for the year 1974.

Conversion plants operated at only 16 percent of capacity during April, judging from shipments of UF₆ during the month. The March level was 78 percent.

Part 4

Nuclear Power

	Capacity	Monthly Average Power	Percent of Total Domestic Electricity Generation	
	In net elect	rical megawatts		
1972 January February March April May June July August Septembe October Novembel	8,149 8,149 8,653	5,720 5,165 5,750 5,124 3,918 5,375 6,227 7,742 6,589 6,539 7,475 8,125	2.9 2.6 3.0 2.7 2.1 2.6 2.9 3.5 3.2 3.7 3.9	U.S. Nuclear Powerplants
1973 January February March April May June July August Septembe October November December	16,179	8,395 8,821 8,991 8,161 7,657 9,429 9,355 10,463 10,815 10,036 11,308 10,543	3.9 4.1 4.5 4.2 3.8 4.2 4.0 4.4 4.9 4.8 5.7 5.1	Z8 Z4 Z0 Capacity Monthly Average Power JFMAMJJASONDJFMAMJJASON JFMAMJJASONDJFMAMJJASON
1974 January February March April May June July August September October November December 1975 January February March April May	17,734 17,734 17,734 17,734 17,734 17,710 18,722 21,571 23,667 24,736 24,641 27,399 27,944 28,464 29,520 *30,319	10,230 11,744 11,015 8,746 8,254 8,223 11,321 15,605 13,894 13,515 14,080 15,509 16,271 16,472 18,182 16,482 *16,878	4.9 5.5 5.5 4.3 4.0 4.8 6.7 6.6 6.7 6.8 7.6 7.5 7.6 8.7 8.2	1973 1974 1975 1973 — 1974 — 1975 — 1975

Sources: Capacity (maximum dependable capacity) and Monthly Average Power data for June 1974 forward for plants in commercial operation are from U.S. Nuclear Regulatory Commission; remaining data are from Federal Power Commission.

^{*}Preliminary data.

Commercial Nuclear Power Generation by Major Non-Communist Countries-May 1975

Generation of Electricity

	Number of		Generation	Percent of Capacity		
Country	Reactors	Capacity	May 1975	May 1975	Year 1974	
		In gross electrical megawatts	In billions of gross kilowatt hours			
Canada	5	2,380	0.97	55	74	
Federal Republic of Germany	7	3,450	*1.51	*73	57	
France	10	3,070	1.56	68	57	
Great Britain	29	6,140	**2.28	* *55	61	
India	3.	620	0.32	69	55	
Italy	3	630	0.34	73	61	
Japan	8	3,890	0.99	34	61	
Spain	3	1,120	0.54	64	75	
Sweden	5	3,310	0.97	39	20	
Switzerland	3	1,050	0.69	88 ′	76	
United States	51	36,480	14.71	54	57	
Total	127	62,140	24.88	55	58	

^{*}Figures do not include Wuergassen for which generation figures were not available.
**Figures are for 4-week operating period.
Source: Nucleonics Week Magazine.

U.S. Uranium Enrichment - May 1975

	Domestic Customers	Foreign Customers	Total
Separative Work Performed (in metric tons of separative work units)	202.38	312.32	514.70
Cost (in millions of dollars)	9.321	13.893	23.214
Product Quantity (in metric tons of uranium)	46.66	74.24	120.90
Average Enrichment (in percent U-235)	3.008	2.615	2.767
Feed Requirement (in metric tons of uranium)	256.37	388.68	645.05

Source: U.S. Energy Research and Development Administration.

Summary of Monthly Nuclear Fuel Cycle-April 1975

Fuel Cycle Activity	Product	Processed Material*	Percent Utilization of Industry Capacity	Energy Content of Processed Material**	Energy Consumed in Fuel Cycle Activity***	Cost Contribution to Electric Power [†]
		In MTU except where noted		In billion Btu o where noted	except	In mills per kilowatt hour
Milling	Yellowcake (U ₃ O ₈) Deliveries	480	39	164,000	266	0.54
Conversion	Uranium Hexa- fluoride (UF ₆) Deliveries	228	16	78,000	49	0.07
Enrichment	Enriched UF 6 Deliveries	177 (605 MT-SWU)	++	309,000	17,586	0.86
Fabrication	Finished Fuel Assemblies Produced	158	66	322,000	249	0.46
Powerplant Operation	New Fuel Receipts	111	_	_	-	-
	Electricity Generated	14,018 (billion kWhe)	57	139,000	2,400	8.37
	Spent Fuel Discharged	33	-	-	_	_
Reprocessing	Spent Fuel Received	17	-	-	· _	0.02
	Spent Fuel Reprocessed	0	-	-	_	_

^{*}Units of measure are discussed in Explanatory Notes 7 and 8.

^{**}Assumes 25,000 MWD/MTU for heat content of enriched uranium and a 6:1 feed-to-product ratio at the enrichment plant.

***Energy requirements for processing are obtained from U.S.A.E.C. Report No.WASH 1248.

^{*}Cost contribution is computed from unit prices paid for current month's production and requirement for a model 1000-MWe reactor operating at 80 percent capacity factor, given in U.S.A.E.C. Report No.WASH 1174-74. Because of the long lead time required for nuclear fuel processing, the sum of the numbers in this column does not necessarily reflect the fuel cost of current electricity production.

**ERDA's enrichment plants are presently operating at maximum utilization of available electric power, with the excess production

being placed in the "preproduction stockpile" in anticipation of high demand for enriched uranium in the 1980's. Source: FEA.

ENERGY CONSUMPTION

Domestic energy consumption in April 1975 totaled 6.032 quadrillion Btu, 3.8 percent above the April 1974 level of 5.809. No sectoral breakdown is available for April as yet.

The revised consumption total for March was 6.357 quadrillion Btu, 2.661 quadrillion Btu of which was consumed by the Residential and Commercial Sector, up 9.0 percent from March 1974. Direct consumption of primary fuels amounted to 62.4 percent of the sector total (coal was 0.9 percent, dry natural gas, 39.8 percent, and petroleum products, 21.7 percent). Consumption of electricity accounted for the remaining 37.6 percent.

The Industrial Sector consumed 2.133 quadrillion Btu in March 1975, down 9.9 percent from March 1974. Coal accounted for 17.7 percent of the 1975 figure, 28.2 percent was dry natural gas, 24.7 percent was petroleum products, and 29.4 percent was electricity.

Consumption in the Transportation Sector was 1.563 quadrillion Btu, up 4.4 percent from March 1974. Petroleum products accounted for 95.0 percent of the total. Natural gas consumed by pipelines, and electricity used by railroads and for street and highway lighting accounted for the balance.

Note: The methodology used to compute natural gas consumption by the various economic sectors has been changed. Consequently the tables appearing in this section have been revised. See footnote 2 of the table on page 50 for a discussion of the new methodology.

PETROLEUM CONSUMPTION AND FORECAST

Total demand for petroleum products during the 4 weeks ending June 6 increased contraseasonally from the 4-week period ending May 23 to 15.56 million barrels per day. This was still 32,000 barrels per day below the same period last year, however.

Domestic demand for motor gasoline for the 4 weeks ending June 6 was 6.89 million barrels per day. This was 170,000 barrels per day, or 2.5 percent, above the forecast level.

Domestic demand for distillate fuel oil for the 4 weeks ending June 6 was 2.62 million barrels per day. This was 160,000 barrels per day, or 6.5 percent, above the forecast level of 2.46 million barrels per day.

Domestic demand for residual fuel oil for the 4 weeks ending June 6 was 2.11 million barrels per day, which was 200,000 barrels per day, or 10.5 percent, higher than the forecast level.

Part 5

Consumption

Energy Consumption

Energy Consumption by the Residential and Commercial Economic Sector¹

			Natural Gas	D-41	Electricity	Electrical Energy Loss	Total Energy	Cumulative Total Energy
		Coal	(dry)	Petroleum ²	Distributed	Distributed	Use	Use
			In o	quadrillion (1015)	Btu			
1973	January	0.038	1.277	0.707	0.299	0.713	3.033	3.033
	February	0.032	1.131	0.653	0.285	0.610	2.711	5.744
	March	0.025	0.940	0.620	0.272	0.629	2.486	8.229
	April	0.016	0.755	0.527	0.253	0.569	2.120	10.349
	May	0.017	0.543	0.562	0.250	0.612	1.983	12.332
	June	0.017	0.350	0.510	0.279	0.710	1.865	14.179
	July	0.017	0.270	0.504	0.321	0.808	1.920	16.117
	August	0.018	0.243	0.560	0.332	0.873	2.027	18.143
	September	0.024	0.269	0.539	0.330	0.732	1.894	20.037
	October	0.028	0.339	0.592	0.287	0.650	1,897	21.934
	November	0.031	0.617	0.662	0.267	0.602	2.179	24.113
	December	0.033	0.897	0.648	0.271	0.664	2.514	26.627
	TOTAL	0.295	7.632	7.083	3.445	8.172	26.627	
1974	January	0.041	1.245	0.664	0.296	0.705	2.951	2.951
	February	0.035	1.049	0.593	0.275	0.611	2.563	5.513
	March	0.028	0.934	0.568	0.269	0.644	2.442	7.955
	April	0.019	0.750	0.532	0.258	0.597	2.156	10.110
	May	0.017	0.504	0.499	0.254	0.657	1.930	12.040
	June	0.016	0.340	0.510	0.282	0.694	1.841	13.881
	July	0.015	0.280	0.506	0.315	0.846	1.962	15.843
	August	0.021	0.246	0.522	0.330	0.818	1.936	17.779
	September	0.026	0.276	0.513	0.316	0.659	1.791	19.570
	October	0.028	0.412	0.591	0.272	0.641	1.944	21.513
	November	0.028	0.603	0.575	0.263	0.643	2.113	23.626
	December	0.032	0.996	0.630	0.292	0.744	2.693	26.319
	TOTAL	0.306	7.634	6.701	3.420	8.258	26.319	
1975	January	0.036	1.210	0.651	0.315	0.771	2.984	2.984
	February	0.024	1.127	0.561	0.300	0.667	2.680	5.662
	March	0.025	1.058	0.577	0.291	0.710	2.661	8.323
	TOTAL	0.085	3.395	1.789	0.906	2.148	8.323	

Energy Consumption by the Industrial Economic Sector¹

•		Coal	Natural Gas (dry)	Petroleum ³	Hydroelectric	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use
				In quadrillic	on (10¹⁵) Btu				
1973	January	0.393	0.812	0.640	0.003	0.189	0.449	2.486	2.486
	February	0.362	0.746	0.591	0.003	0.186	0.399	2.286	4.772
	March	0.369	0.787	0.561	0.003	0.191	0.441	2.351	7.124
	April	0.363	0.783	0.477	0.003	0.191	0.430	2.247	9.370
	May	0.369	0.843	0.508	0.003	0.194	0.475	2.392	11.762
	June	0.351	0.799	0.461	0.003	0.196	0.499	2.309	14.071
	July	0.345	0.852	0.456	0.003	0.195	0.490	2.342	16.413
	August	0.340	0.836	0.507	0.003	0.201	0.528	2.416	18.829
	September	0.329	0.818	0.488	0.003	0.202	0.448	2.288	21.117
	October	0.363	1.016	0.536	0.003	0.206	0.468	2.592	23.709
	November	0.374	1.010	0.599	0.003	0.199	0.451	2.636	26.345
	December	0.412	1.031	0.586	0.003	0.192	0.469	2.693	29.038
	TOTAL	4.370	10.335	6.409	0.036	2.341	5.547	29.038	
1974		0.390	0.776	0.605	0.003	0.190	0.452	2.417	2.417
	February	0.366	0.796	0.541	0.003	0.188	0.417	2.310	4.727
	March	0.369	0.829	0.518	0.003	0.191	0.458	2.368	7.095
	April	0.363	0.697	0.485	0.003	0.193	0.446	2.188	9.283
	May	0.354	0.812	0.455	0.003	0.196	0.506	2.325	11.608
	June	0.337	0.778	0.465	0.003	0.198	0.487	2.268	13.876
	July	0.336	0.843	0.462	0.003	0.198	0.531	2.372	16.249
	August	0.346	0.876	0.476	0.003	0.204	0.506	2.411	18.659
	September	0.348	0.944	0.468	0.003	0.206	0.430	2.399	21.058
	October	0.358	0.988	0.539	0.003	0.205	0.484	2.576	23.635
	November	0.323	0.988	0.525	0.003	0.196	0.478	2.513	26.147
	December	0.319	0.912	0.575	0.003	0.184	0.469	2.462	28.609
	TOTAL	4.208	10.240	6.111	0.036	2.348	5.665	28.609	
1975	January	0.356	0.673	0.594	0.003	0.185	0.454	2.265	2.265
	February	0.356	0.592	0.511	0.003	0.181	0.404	2.046	4.311
	March	0.378	0.602	0.526	0.003	0.181	0.443	2.133	6.444
	TOTAL	1.089	1.867	1.631	0.009	0.548	1.300	6.444	

Energy Consumption by the Transportation Economic Sector¹

		Coal	Natural Gas (dry) ⁴	Petroleum	Electricity Distributed	Electrical Energy Loss Distributed	Total Energy Use	Cumulative Total Energy Use		
In quadrillion (10 ¹⁵) Btu										
1973	January February March April May June July August September October November December	0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001	0.085 0.076 0.070 0.062 0.056 0.047 0.046 0.044 0.055 0.066 0.078 0.729	1.511 1.417 1.502 1.412 1.540 1.471 1.528 1.588 1.437 1.520 1.523 1.491	0.005 0.005 0.005 0.005 0.004 0.004 0.004 0.005 0.005 0.005 0.005 0.005	0.013 0.011 0.012 0.010 0.011 0.011 0.011 0.012 0.010 0.011 0.012 0.013	1.615 1.510 1.589 1.490 1.612 1.534 1.589 1.649 1.497 1.592 1.607 1.589 18.873	1.615 3.125 4.714 6.204 7.816 9.350 10.939 12.589 14.085 15.677 17.285 18.873		
1974	January February March April May June July August September October November December	0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001	0.073 0.067 0.064 0.052 0.048 0.041 0.041 0.041 0.044 0.051 0.058 0.069	1.398 1.300 1.416 1.397 1.484 1.449 1.513 1.532 1.392 1.506 1.453 1.546 17.386	0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.013 0.011 0.012 0.011 0.012 0.011 0.012 0.012 0.010 0.012 0.013 0.014	1.491 1.384 1.498 1.466 1.549 1.506 1.571 1.590 1.452 1.575 1.530 1.635	1.491 2.875 4.372 5.838 7.387 8.893 10.465 12.055 13.508 15.083 16.613 18.248		
1975	January February March TOTAL	0.001 0.001 0.001 0.002	0.068 0.062 0.060 0.191	1.499 1.344 1.484 4.326	0.006 0.005 0.005 0.016	0.014 0.012 0.013 0.039	1.587 1.424 1.563 4.574	1.587 3.011 4.574		

¹ The methodology used for the Residential and Commercial, Industrial, and Transportation Sector calculations is provided in the footnotes of the "Energy Consumption by Economic Sector and Primary Source" table on page 50. Printed totals may differ slightly from the sum of their row/column components due to independent rounding. Much of the data in these tables have been revised this month because of base data revisions or methodological changes (as in the case of natural gas).

revised this month because of base data revisions or methodological changes (as in the case of natural gas).

The percentage share used in calculating Residential and Commercial consumption of petroleum was 52.5 percent for 1973 and 52.3 percent for 1974 and 1975.

The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 47.7 percent for

³ The percentage share used in calculating Industrial consumption of petroleum was 47.5 percent for 1973 and 47.7 percent for 1974 and 1975.

⁴ The percentage share used in calculating Transportation consumption of natural gas was 3.9 percent for 1973 and 3.5 percent for 1974 and 1975.

Primary Energy Source

Sector	Coat ¹	Natural Gas '	Petroleum ³	Hydroelectric ⁴	Nuclear ^s	Primary Energy Consumption	Electricity Distributed ⁶	Net Energy Consumption	Electrical Energy Loss Distributed ⁷	Ultimate Energy Disposition
Residential and Commercial	0.025	1.058	0.577	_		1.660	0.291	1.951	0.710	2.661
Industrial	0.378	0.602	0.526	0.003	_	1.509	0.181	1.690	0.443	2.133
Transportation	0.001	0.060	1.484	_	(⁸)	1.545	0.005	1.550	0.013	1.563
Electric Utilities	0.729	0.215	0.247	0.302	0.151	1.644	_	_	_	_
TOTAL	1.132	1.935	2.833	0.305	0.151	6.357	0.478	5.191	1.166	6.357

¹ Data are from the Bureau of Mines. Includes anthracite and bituminous coal and lignite.

² Aggregate data are from the Bureau of Mines. FPC provided data on natural gas consumed by electric utilities. Data from the American Gas Association are used for the Residential and Commercial Sector. Natural gas used in transportation, mostly for pipeline use, is estimated to be 3.5% of total natural gas consumption less electric utilities. This percentage is derived from 1974 Bureau of Mines data on consumption. The Industrial Sector is then the difference between the total and the sum of the other sectors.

³ Aggregate petroleum data are from the Federal Energy Administration. FPC provided data on oil consumed by electric utilities. Petroleum consumed in transportation was calculated based on Department of Transportation data as follows: Motor gasoline - 100%; naphtha jet fuel - 100%; kerosine jet fuel - 97%; distillate fuel oil - 30.3%; residual fuel oil - 11.2%; all other products - 4.7%. The remainder is distributed to economic sectors using the following percentage shares, derived from 1974 Bureau of Mines data on consumption: Residential and Commercial - 52.3%; Industrial - 47.7%.

⁴FPC hydroelectric power production plus net imports of electricity from Canada. These imports, estimated at 0.011 quadrillion Btu per month, were assumed to be from hydroelectric power sources. Monthly industrial hydroelectric power consumption is estimated to be one-twelfth of the preliminary Bureau of Mines annual figure for 1974.

⁵ FPC nuclear power production.

⁶ Electricity was distributed using FPC and Edison Electric Institute data on kilowatt-hour sales to ultimate customers. Electrical energy consumed by railroads and for street and highway lighting was distributed to the Transportation Sector. All "other" sales, largely for use in government buildings, were distributed to the Residential and Commercial Sector.

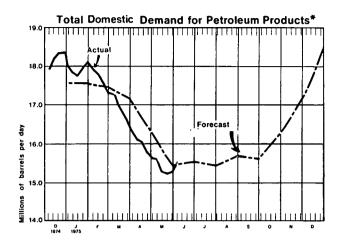
⁷In generating electricity with nuclear or fossil fuels, approximately 65 percent of the energy is lost in the form of heat. Transmission and distribution losses consume about an additional 3 percent of the energy inputs of the utility industry. In order to fully account for all energy consumed both directly and indirectly (i.e., ultimate energy disposition), the electricity losses are allocated to the final end-use sectors in proportion to their direct kilowatt-hour usage.

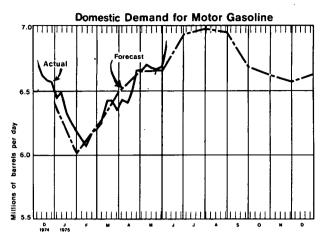
⁸ Negligible.

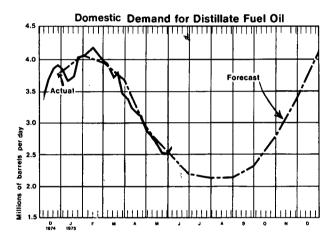
Percent Changes in Energy Consumption for March 1975 by Source

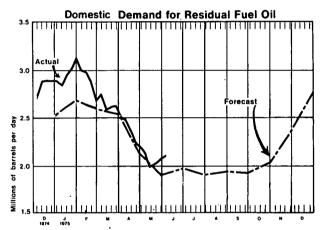
	March 1975 Consumption	Percent Change from March 1974	Cumulative Percent Change from 1974 (January through March)
	In quadrillion (10	0 ^{1 5}) Btu	
Refined Petroleum Products	2.833	+ 3.3	+ 2.5
Motor Gasoline Jet Fuel Distillate Residual Other Petroleum Products	1.042 0.177 0.625 0.505 0.484	+ 4.0 + 6.5 +10.0 + 2.9 - 5.3	+ 4.3 +13.8 + 5.8 + 0.3 - 4.8
Natural Gas (Dry)	1.935	- 7.2	- 6.9
Coal (Anthracite, bituminous, and lignite)	1.132	+ 4.4	+ 1.7
Electricity (Sales)	0.478	+ 2.9	+ 3.2
Total Energy Use	6.357	+ 0.8	– 0.4
Economic Sector Consumption			
Residential and Commercial Industrial Transportation	2.661 2.133 1.563	+ 9.0 - 9.9 + 4.4	+ 4.6 - 9.2 + 4.6

Petroleum Consumption and Forecast









Notes

Domestic Demand — Demand for products, in terms of real consumption, is not available; production plus imports plus withdrawals from primary stocks is used as a proxy for consumption. Secondary stocks, not measured by FEA, are substantial for some products.

Actuals - Four-week moving averages.

Forecast — Forecast petroleum product demand assumes normal weather conditions and projected economic activity. The forecast is periodically revised to take into account actual weather conditions and actual values of other predictor variables as they become available.

^{*}See Explanatory Note 9.

OIL AND GAS EXPLORATION

The average number of rotary rigs drilling for oil and gas in May declined for the second consecutive month to 1,592. This was the first time the rig count fell below 1,600 since November 1974. Compared with May 1974, however, there was a 13-percent increase in active rotary rigs.

The number of wells drilled during May totaled 2,442, a decrease of 316 wells from the previous month.

In May there were 143 more oil wells, but 69 fewer gas wells, drilled than in the same month last year.

Following a 2-month decline, the number of seismic crews prospecting for hydrocarbons during May reflected a gain of 3 crews over the April level. Of the 286 total crews for May, 254 were operating onshore and 32 offshore. Last year at this time there were 313 crews in operation (278 land, 35 marine).

Part 6

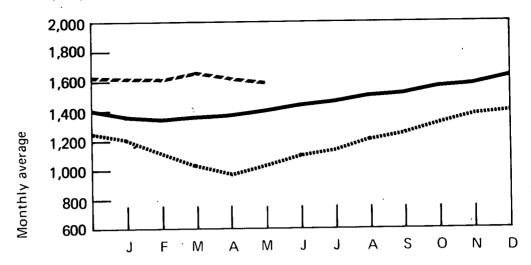
Resource Development

Oil and Gas Exploration

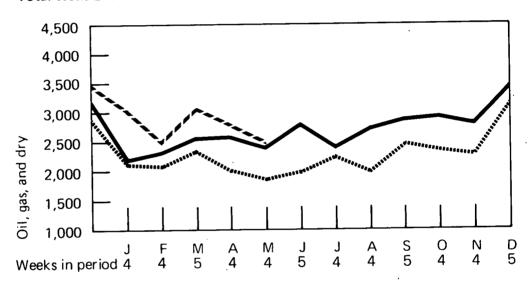
		Rotary Rigs in Operation		Wells	Drilled		Total Footage of Wells Drilled
		Monthly average	Oil	Gas	Dry	Total	
1972	January February March April May June July August September October November December	1,147 1,071 1,034 1,002 1,005 1,049 1,104 1,130 1,152 1,165 1,186 1,241	807 965 1,210 923 920 1,042 833 946 1,065 792 860 985	281 350 394 355 332 395 335 410 468 539 535 536	851 955 889 788 816 903 795 924 1,009 919 975	1,939 2,270 2,493 2,066 2,068 2,340 1,963 2,280 2,542 2,250 2,370 2,811	9,441,238 12,381,669 12,406,433 9,902,253 10,218,488 11,009,513 9,212,931 11,334,867 11,634,026 10,944,312 12,360,912 14,190,138
1973	January February March April May June July August September October November December	1,219 1,126 1,049 993 1,046 1,118 1,155 1,222 1,266 1,334 1,390 1,405	758 777 953 699 749 767 912 724 854 790 822 1,087	406 487 504 489 407 432 504 456 690 554 606 827	899 765 909 777 647 795 840 739 940 958 865 1,208	2,063 2,029 2,366 1,965 1,803 1,994 2,256 1,919 2,484 2,302 2,293 3,122	10,972,665 10,655,936 12,317,756 10,433,987 9,622,110 10,814,600 10,995,939 9,632,819 12,075,280 11,693,672 11,823,350 15,529,582
1974	January February March April May June July August September October November December	1,372 1,355 1,367 1,381 1,412 1,432 1,480 1,518 1,527 1,584 1,596 1,643	763 901 936 947 957 1,238 1,008 1,210 1,200 1,131 1,088 1,339	577 600 638 700 520 586 461 555 600 551 626 791	803 816 1,003 945 870 982 884 968 1,091 1,241 1,053	2,143 2,317 2,577 2,592 2,347 2,806 2,353 2,733 2,891 2,923 2,767 3,404	10,391,797 12,160,308 12,844,135 13,349,007 11,459,595 12,976,388 11,801,777 12,409,855 12,676,090 14,080,534 11,794,937 15,707,092
1975	January February March April May	1,615 1,611 1,651 1,604 1,592	1,299 1,097 1,341 1,181 1,100	655 458 658 506 451	1,040 933 1,091 1,071 891	2,994 2,488 3,090 2,758 2,442	13,189,222 12,070,712 15,472,260 13,544,705 12,054,485

Sources: Rotary Rigs - Hughes Tool Company. Wells - American Petroleum Institute.

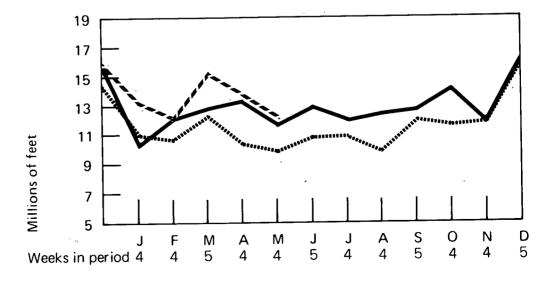
Rotary Rigs in Operation



Total Wells Drilled



Total Footage of Wells Drilled

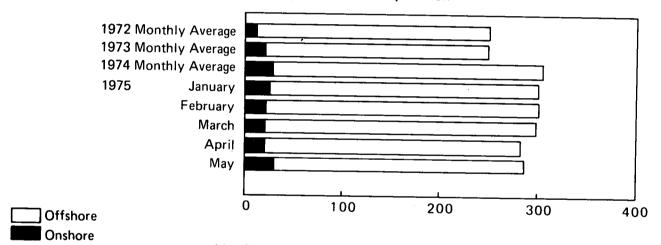


---- 1973 --- 1974 --- 1975

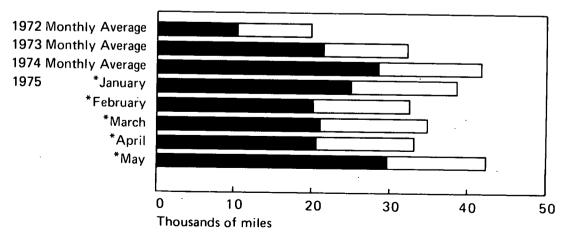
Oil and Gas Exploration (Continued)

	Crews Engage	Crews Engaged in Seismic Exploration			Line Miles of Seismic Exploration		
	Offshore	Onshore	Total	Offshore	Onshore	Total	
1972 Monthly Average	12 .	239	251	10,306	9,333	19,639	
1973 Monthly Average	23	227	250	21,579	10,597	32,175	
1974 Monthly Average	31	274	305	28,482	13,219	41,701	
A4					Estimates*		
May	35	278	313	32,550	13,677	46,227	
June	38	279	317	34,200	13,283	47,483	
July	35	299	334	32,550	14,710	47,260	
August	34	287	321	31,620	14,120	45,740	
September	34	287	321	30,600	13,664	44,264	
October	32	288	320	29,760	14,169	43.929	
November	30	276	306	27,000	13,140	40,140	
December	25	275	300	23,250	13,529	36,779	
1975						33,	
January	27	274	301	25,110	13,480	38,590	
February	24	278	302	20,160	12,353	32,513	
March	23	276	299	21,390	13.578	•	
April	23	260	283	20,700	12,379	34,968	
May	32	254	286	29,760	12,379	33,079 42,256	

Crews Engaged in Seismic Exploration







^{*}See Explanatory Note 10.

Source: Society of Exploration Geophysicists.

MOTOR GASOLINE

The average price that retailers paid for regular gasoline increased 1.1 cents per gallon in May. The average selling price, however, increased only 0.8 cent per gallon, indicating that the full amount of gasoline-cost increases resulting from the \$1-per-barrel fee on crude oil imports was not passed through by retailers. The retail dealer margin absorbed some of the impact of the fee and declined 0.3 cent to 8.3 cents per gallon; this was the smallest margin since December 1973.

On a regional basis during May, the West Coast had the highest retail selling price for regular gasoline (55.7 cents per gallon). In contrast, during April the Mid-Atlantic Region had the highest price (54.9 cents per gallon).

FEA's monthly survey of 21 of the Nation's largest marketers of gasoline indicated that all 21 of them had increased prices in May. This was the first time that all 21 companies had raised their prices since the survey was begun in October 1973.

NATURAL GAS

The average price of natural gas sold by major interstate pipeline companies during March was 77.9 cents per thousand cubic feet, 3.5 cents above the February price of 74.4 cents per thousand cubic feet.

CRUDE OIL

During April, the average domestic "new" oil price was \$11.57 per barrel, 10 cents above the revised March figure of \$11.47.

The preliminary April estimate for the refiner acquisition cost of imported crude petroleum was \$13.17 per barrel, 11 cents below the revised March figure of \$13.28.

The preliminary estimate for the average cost of domestic crude purchased by refiners during April was \$8.20 per barrel, 18 cents below the revised March figure of \$8.38.

The preliminary estimate for the composite cost of crude petroleum purchased by refiners during April was \$9.82 per barrel, 9 cents below the revised March figure of \$9.91.

UTILITY FOSSIL FUELS '

The U.S. average cost of all fossil fuels delivered to utilities in February 1975 increased moderately by 2.1 cents per million Btu over the January level. This rise was due to cost increases in all three fossil fuels.

The national average cost of natural gas delivered to utilities during February advanced 7.0 cents per million Btu, the largest monthly increase since July 1972 when cost data were first collected. Two regions which consume substantial quantities of natural gas as a utility fuel, the South Atlantic and West South Central, had large price increases of 8.2 cents and 7.4 cents per million Btu, respectively. However, the effect of this gas cost increase on the national average fossil fuel cost was minimal, since gas accounts for only about 16 percent, on a Btu basis, of the total amount of fossil fuels consumed by utilities.

The national average costs of coal and residual fuel oil to utilities exhibited only moderate advances during February of 0.8 and 4.3 cents per million Btu, respectively.

Part 7

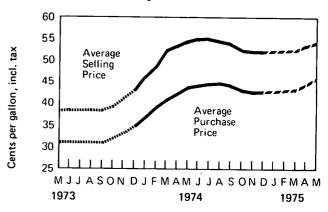


Motor Gasoline

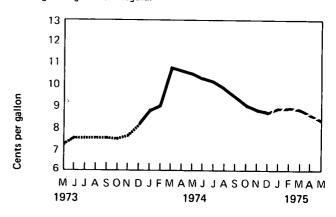
Regular Gasoline at Retail Outlets

		Average Selling Price	Average Purchase Price	Average Dealer Margin
		Cents per g	allon, includ	ing tax*
1973	January February March April May June July August September October November December	37.3 36.8 37.9 38.3 38.5 38.8 38.8 38.7 39.7 41.3 43.3	30.5 30.1 30.8 31.0 31.2 31.2 31.2 31.2 31.1 32.2 33.6 35.1	6.8 6.7 7.1 7.3 7.6 7.6 7.6 7.6 7.5 7.7 8.2
1974	January February March April May June July August September October November December	46.3 48.8 52.3 53.4 54.7 55.1 55.2 54.9 54.2 52.4 52.0 52.0	37.4 39.7 41.4 42.7 44.1 44.8 45.0 45.1 44.8 43.4 43.2 43.3	8.9 9.1 10.9 10.7 10.6 10.3 10.2 .9.8 9.4 9.0 8.8 8.7
1975	January February March April May	52.4 52.5 52.6 53.5 54.3	43.4 43.5 43.8 44.9 46.0	9.0 9.0 8.8 8.6 8.3

Average Retail Prices For Regular



Average Margins For Regular



^{*}To derive prices excluding taxes, 12.0 cents per gallon may be deducted for 1973 and 12.2 cents per gallon may be deducted for 1974 and 1975. Sources: Platts Oilgram through September 1973. FEA from October 1973 through December 1974. Lundberg Survey, Inc., from January 1975 forward.

Average Selling Prices at Major and Independent Retail Outlets-May 16, 1975

,	Cents per gallon, including tax
Regular Gasoline	
Major	54.9
Independent	50.5
National Average	54.3
Premium Gasoline	
Major	59.6
Independent	54.6
National Average	59.0
Diesel Fuel*	
Truck Stops	
Major	[*] 51.5
Independent	49.5
National Average	50.3
Service Stations	
Major	52.2
Independent	49.4
National Average	51.0

^{*}See Explanatory Note 11. Source: Lundberg Survey, Inc.

Average Margins for Major and Independent Retail Dealers-May 16, 1975

	Cents per gallon
Regular Gasoline	
Major	8.6
Independent	6.5
National Average	8.3
Diesel Fuel*	
Truck Stops	
Major	5.8
Independent	9.0
National Average	7.0
Service Stations	
Major	7.4
Independent	8.3
National Average	. 7.7

^{*}See Explanatory Note 11. Source: Lundberg Survey, Inc.

Average Regional Retail Selling Prices and Dealer Margins for Regular Gasoline-May 16, 1975

FEA Region	Selling Price	Margin	
	Cents per gallon, i	ncluding tax	
1A New England	52.9	7.1	
1B Mid Atlantic	54.9	7.7	
1C Lower Atlantic	54.3	8.5	
2 Mid Continent	54.1	7.9	
3 Gulf Coast	53.1	10.0	
4 Rocky Mountain	54.6	9.4	
5 West Coast	55.7	8.4	
National Average	54.3	8.3	

Source: Lundberg Survey, Inc.

Motor Gasoline (Continued)

Retail Gasoline Price Changes for Major Oil Companies During May 1975 and Entitlement Position* During April

Company	Effective Date of Change	Amount of Change	Entitlement Position (April)	
		Cents per gallon		
Amerada Hess	May 9	2.00	Seller	
American Petrofina	May 7	2.00	Seller	
Ashland	May 5	2.00	Seller	
Atlantic Richfield	May 17	1.00	Seller	
B.P.	May 9	0.60	Seller	
Cities Service	May 31	1.50	Buyer	
Champlin	May 13	0.70	Buyer	
Continental	May 7	1.00	Buyer	
Exxon	May 24	1.00	Buyer	
Getty	May 30	1.00	Seller	
Gulf	May 30	1.00	Buyer	
Kerr-McGee	May 20	1.00	Buyer	
Mobil	May 15	1.00	Buyer	
Phillips	May 8	3.00 (west of	Seller	
		Rockies)		
		1.00 (east of Rockies)		
Shell	May 14	1.00	Buyer	
Standard Oil of California	May 8	1.00	Seller	
Standard Oil of Indiana	May 1	1.00	Buyer	
Standard Oil of Ohio	May 10	1.00	Seller	
Sun	May 21	1.00	Seller	
Texaco	May 1	2.00	Seller	
Union Oil of California	May 19	1.00	Buyer	
*Coo definitions			•	

^{*}See definitions. Source: FEA.

Major Brand Regular Gasoline, May 1975

Marketing Region	Retail DTW Price	Change from Previous Month	Branded Jobber Price	Change from Previous Month	Regional Jobber Margin	Change from Previous Month
			Cents per gal	llon, excluding tax		
Northeast	35.25	1.28	30.86	1.28	4.39	0
Mid Atlantic	34.85	1.10 .	30.98	1.10	3.87	0
Southeast	34.35	1.18	30.54	1.19	3.81	-0.01
Central	35.71	1.14	31.56	1.14	4.15	0
Western	34.95	1.43	31.20	1.43	3.75	Ŏ
Southwest	34.38	1.14	30.38	1.14	4.00	Ō
Pacific	34.76	1.25	31.02	1.25	3.74	ŏ
Average	34.89	1.21	30.93	1.21	3.96	Ö
Source: FEA.						

Heating Oil

Price Changes for Major Oil Companies During May 1975

Company	Effective Date	Amount of Change
		Cents per gallon
Amerada Hess American Petrofina Ashland Atlantic Richfield B.P. Cities Service Champlin Continental Exxon Getty Gulf Kerr-McGee Mobil Phillips Shell Standard Oil of California Standard Oil of Ohio	May 31 May 17 May 3 May 9 May 13 May 14 May 14 May 15	None None 1.00 0.70 -1.50 1.00 0.25 None None -2.00 0.50 None 0.50 None None None None None None None
Sun Texaco Union Oil of California	May 1	1.00 None

Source: FEA.

Natural Gas

Natural Gas Prices Reported by Major Interstate Pipeline Companies

			PURCHASES	;		SALES	
		From Domestic Producers	From Canadian and Mexican Sources	Total Purchases	To Industrial Users	To Resellers*	Total Sales
				Cents per thou	sand cubic feet		
1973	December	24.5	47.6	26.3	46.4	52.2	52.3
1974	January February March April May June July August September October November December	24.3 25.4 25.7 25.8 25.7 26.0 26.3 26.1 27.3 27.5 28.5 32.6	42.7 43.2 46.4 49.3 47.7 58.7 57.5 58.8 58.9 70.9 74.5	25.7 26.8 27.0 27.4 27.5 27.5 28.6 28.4 29.5 29.9 31.7 35.8	48.1 49.8 50.8 49.3 49.9 50.8 52.5 55.2 54.7 56.3 58.7 60.3	55.0 56.4 56.9 57.6 58.6 59.4 62.0 64.4 65.2 64.4 66.8 67.2	55.1 56.4 56.9 57.4 57.9 58.5 61.1 63.5 64.3 64.0 66.6 67.4
1975	January February March	29.8 29.5 31.6	104.0 105.8 102.5	35.2 35.2 37.0	67.6 70.1 70.4	71.1 74.1 77.8	71.4 74.4 77.9

^{*}Includes the cost of gas to the distributing utility at entrance of distribution system or point of receipt. Source: Federal Power Commission.

Average Retail Prices for Natural Gas Sold to Residential Customers

,	Price In cents per thousand cubic feet
February February March April May June July August September October November December	113 115 117 118 120 120 122 124 126 127 131
1975 January February March April May	138 141 143 147 150

Source: Bureau of Labor Statistics.

Crude Oil

Percentage of Domestic Production Sold at Controlled and Uncontrolled Prices

		Controlled	Uncontroll	ed	
		Old Oil	New Oil	Released	Stripper
1974	January February March April May June July August September October November December	60 62 60 62 63 64 66 67 66	17 15 16 16 15 15 15 14 13 14 13	10 10 11 11 10 9 9 8 8 8	13 13 13 13 13 13 12 12 12 12 12
1975	January*	58	19	10	12

^{*}Total does not add to 100 due to rounding. Source: FEA.

.

Domestic Crude Petroleum Prices at the Wellhead Old New Dollars per barrel 1974 5.25 January 5.25 9.87 February 5.25 9.88 March 5.25 April 9.88 May 5.25 9.88 9.95 June 5.25 5.25 9.95 July August 5.25 9.98 September 5.25 10.10 5.25 10.74 October November 5.25 10.90 5.25 11.08 December 1975 January 5.25 11.28 February 5.25 11.39 March 5.25 R11.47 April *11.57 5.25

R=Revised. Source: FEA.

^{*}Preliminary figure based on early reports.

Crude Oil (Continued)

Refiner Acquisition Cost of Crude Petroleum*

		Domestic	Imported	Composite
			Dollars per barrel	
1974	January	6.72	9.59	7.46
	February	7.08	12.45	8.57
	March	7.05	12.73	8.68
	April	7.21	12.72	9.13
	May	7.26	13.02	9.44
	June	7.20	13.06	9.45
	July	7.19	12.75	9.30
	August	. 7.20	12:68	9.17
	September	7.18	12.53	9.13
	October	7.26	12.44	9.22
	November	7.46	12.53	9.41
	December	7.39	12.82	9.28
1975	January	7.78	12.77	9.48
	February	8.29	13.05	10.09
	March	R8.38	R13.28	R9.91
	April	*8.20	*13.17	*9.82

^{*}See Explanatory Note 12.

**Preliminary data.

R = Revised data.

Source: FEA.

Estimated Landed Cost of Imported Crude Petroleum From Selected Countries*

		Algeria	Canada	Indonesia	Iran	Nigeria	Saudi Arabia	U. A. Emirates	Venezuela
					Dollars	per barrel			
1973	December	NA	6.32	6.42	6.37	8.54	5.49	NA	6.70
1974	January February March April May June July August September October November	NA NA 13.63 14.67 14.43 13.65 13.96 13.83 13.20 13.43	6.70 10.90 11.14 11.02 11.47 12.56 12.65 12.49 12.51 12.53 12.33	NA NA 12.13 12.49 12.95 13.21 13.77 14.38 13.42 14.24 13.45	8.53 12.11 13.02 12.83 13.84 13.44 13.02 12.31 11.87 12.07 12.15	12.13 12.74 13.26 13.67 13.83 13.03 12.75 12.70 12.28 12.12 12.83	NA NA 11.59 11.53 11.32 11.97 12.16 11.45 11.51	NA NA NA NA 13.06 12.34 12.69 NA 12.84 13.54	10.28 11.31 11.78 11.38 11.28 10.39 10.64 11.20 11.01 10.95
1975	December January **February **March	13.08 12.72 12.11 12.46	12.15 12.43 12.15 12.79	14.15 13.30 13.52 13.94	11.63 12.11 11.86 12.08	12.88 12.07 12.18 12.56	11.75 12.07 11.94 11.78	14.59 13.14 12.67 13.40	11.37 11.37 11.56 11.66

NA = Not available.

*See Explanatory Note 12.

**Does not include \$1.00 import fee imposed on February 1, 1975.
Source: FEA.

Utility Fossil Fuels

COST OF FOSSIL FUELS DELIVERED TO STEAM-ELECTRIC UTILITY PLANTS

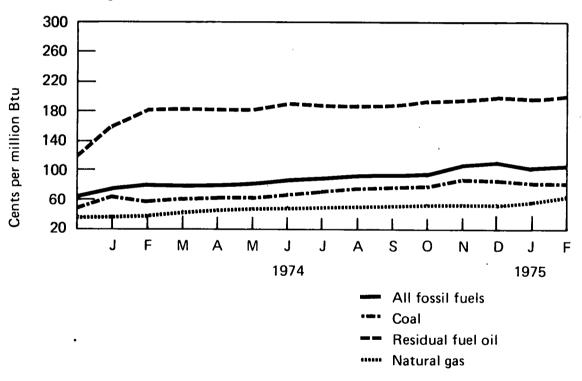
All Fossil Fuels*

Cents per million Btu

						1974						19	75
Region	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
New England	175.7	192.7	186.8	180.0	184.7	186.2	191.4	191.6	192.6	198.7	196.6	193.6	198.8
Middle Atlantic	129.0	123.9	124.9	124.2	137.6	144.7	147.8	137.5	139.1	170.7	181.6	145.2	147.1
East North Central	57.0	62.3	63.7	68.9	76.9	79.1	82.7	82.5	84.6	102.0	100.9	86.6	85.6
West North Central	40.5	36.5	42.4	43.9	47.2	45.3	50.3	51.0	50.0	60.0	63.3	63.5	69.0
South Atlantic	100.6	102.8	105.9	109.8	119.0	123.7	128.2	132.3	128.4	144.3	144.2	125.1	120.2
East South Central	52.4	54.1	54.4	58.3	62.5	65.7	68.2	69.7	75.2	86.7	86.4	79.4	83.1
West South Central	46.2	48.0	44.1	47.3	50.0	59.4	57.1	52.1	53.7	58.0	57.5	59.8	67.4
Mountain	48.1	42.7	43.1	36.3	40.3	45.0	46.8	45.0	47.8	45.8	46.8	54.6	62.9
Pacific	160.3	114.1	117.8	122.4	117.9	118.9	118.8	127.3	132.8	157.7	191.3	190.0	194.4
National Average	81.6	80.9	81.1	81.2	87.7	92.2	95.4	95.9	97.7	111.3	114.7	104.3	106.4

^{*}See Explanatory Note 13.

National Average



Coal

Cents per million Btu

						1974						19	75	
Region	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	
New England Middle Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific National Average	114.2 69.5 52.4 36.3 76.7 49.8 13.6 26.8 NA	132.0 73.1 57.4 37.7 81.7 51.6 13.6 26.1 35.1 60.8	136.8 80.8 59.2 41.0 85.3 52.7 13.6 26.7 35.3	128.8 79.3 65.3 41.7 88.0 54.2 13.6 24.9 35.6 65.8	95.9 88.6 71.7 42.0 90.2 57.9 17.7 25.7 35.5 69.5	106.8 94.3 73.0 44.0 100.4 57.7 17.7 25.0 37.8 72.9	93.7 97.4 77.7 48.3 107.5 61.6 17.7 25.1 38.3 77.3	93.9 95.2 78.1 50.5 114.5 64.1 17.7 25.1 39.0	110.3 94.6 79.5 48.7 112.6 69.7 21.0 26.7 38.5 80.9	108.0 117.4 95.0 57.0 126.8 77.8 21.0 28.3 38.6 90.3	93.5 114.4 92.2 56.0 125.8 80.7 21.0 26.4 38.5 88.9	113.0 99.1 80.0 56.7 102.3 76.3 21.0 27.9 38.4 80.9	134.8 104.7 78.4 57.9 97.0 79.5 21.0 30.6 57.7 81.7	
· ·	30.5	00.0	04.0	03.0	03.5	72.5	77.5	75.1	00.5	30.0	00.5	00.0	0 1	
Residual Fuel Oil* Cents per million Bto														
Cents per million bu	J					1974						1975		
Region ·	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC	JAN	FEB	
New England Middle Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific National Average	190.5 208.1 127.2 154.8 167.3 132.2 126.8 174.9 191.2	208.1 212.2 158.3 169.1 172.7 136.0 144.6 172.1 161.8	199.4 196.0 183.6 178.2 172.8 153.0 159.4 174.1 180.8	193.1 208.6 138.7 160.9 174.9 152.1 194.4 188.7	201.1 207.7 198.2 179.3 181.5 171.5 161.1 199.2 202.5 194.9	199.2 208.6 182.7 152.7 178.7 169.6 187.5 176.2 204.9	201.8 204.5 164.4 178.1 178.9 172.6 179.3 179.0 220.3	199.8 200.7 161.5 182.6 179.3 173.9 108.8 186.7 222.3	202.0 205.4 161.3 179.5 183.3 171.8 186.0 185.0 223.8	207.5 205.7 167.1 190.7 182.2 167.9 179.7 185.1 219.5	205.7 211.5 164.6 190.6 182.2 172.0 171.7 180.0 233.0 202.1	202.5 202.7 144.9 189.6 180.9 174.0 177.1 192.3 223.6	204.1 204.1 165.0 182.3 181.6 171.6 178.2 192.4 235.0 202.0	
Natural Gas**														
Cents per million Bto	u													
						1974						19	75	
Region	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	· FEB	
New England Middle Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	73.3 72.7 62.4 38.0 57.3 48.1 35.2 54.5 47.6	134.2 72.4 65.7 39.5 61.9 47.7 37.6 48.4 46.6	116.4 59.5 60.1 41.2 63.2 50.7 39.1 48.3 49.8	116.3 59.3 72.0 41.8 57.8 50.5 39.5 48.8 50.4	124.7 77.3 76.1 41.7 59.8 52.8 43.6 49.2 50.7	138.7 85.2 77.3 42.1 60.9 63.3 43.8 50.8 60.0	141.2 74.2 80.5 43.3 58.3 58.9 46.8 49.5	132.5 80.5 84.3 43.8 55.8 71.2 46.0 52.1 64.7	NA 64.8 83.3 43.0 58.5 74.3 47.8 55.7	NA 70.0 80.3 44.8 60.2 76.9 51.5 56.6	NA 64.3 93.9 42.3 64.7 87.8 52.2 70.7 68.4	NA 86.1 91.0 43.6 60.3 76.2 55.6 66.9 83.2	NA 84.5 92.7 43.8 68.5 79.5 63.0 66.7 83.6	
National Average	39.8	42.5	43.6	44.0	47.9	49.8	51.8	52.4	53.2	54.0	55.0	58.2	65.2	

NA = Not Available.
*See Explanatory Note 13.
**Includes small quantities of coke oven gas, refinery gas, and blast furnace gas.
Source: Federal Power Commission.

Definitions

Base Production Control Level

The total number of barrels of domestic crude petroleum produced from a particular property in the corresponding month of 1972.

Ceiling Price

The maximum permissible selling price for a particular grade of domestic crude petroleum in a particular field is the May 15, 1973, posted price plus \$1.35 per barrel.

Controlled Crude Oil

Domestically produced crude petroleum that is subject to the ceiling price for crude oil. For a particular property which is not a stripper-well lease, the volume of controlled oil equals the base production control level minus an amount of released oil equal to the new oil production from that property.

Crude Oil Domestic Production

The volume of crude oil flowing out of the ground. Domestic production is measured at the wellhead and includes lease condensate, which is a natural gas liquid recovered from lease separators or field facilities.

Crude Oil Imports

The monthly volume of crude oil imported which is reported by receiving refineries, including crude oil entering the U.S. through pipelines from Canada.

Crude Oil Input to Refineries

Total crude oil used as input for the refining process, less crude oil lost or used for refinery fuel.

Crude Oil Stocks

Stocks held at refineries and at pipeline terminals. Does not include stocks held on leases (storage facilities adjacent to the wells), which historically total approximately 13 million barrels.

Dealer Tankwagon (DTW) Price

The price at which a retail dealer purchases gasoline from a distributor or a jobber.

Distillate Fuel Oil

The lighter fuel oils distilled off during the refining process. Included are products known as ASTM grades Nos. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. The major uses of distillate fuel oils include heating, fuel for on- and off-highway diesel engines, and railroad diesel fuel. Minor quantities of distillate fuel oils produced and/or held as stocks at natural gas processing plants are not included in this series.

Domestic Demand for Refined Petroleum Products

A calculated value, computed as domestic production plus net imports (imports less exports), less the net increase in primary stocks. It, therefore, represents the total disappearance of refined products from primary supplies.

Domestic Non-controlled Crude Oil

That portion of domestic crude oil production including new, released, and stripper oil which may be sold at a price exceeding the ceiling price.

Electricity Production

Production at electric utilities only. Does not include industrial electricity generation.

Entitlement Position

The monthly "entitlement" position of a refiner indicates whether he bought or sold entitlements in that month. An entitlement is the right to purchase "old" oil. A refiner must purchase entitlements for the amount of "old" oil he processes in excess of the national "old" oil supply ratio, defined as total "old" oil purchases by refiners as a percent of total crude runs to stills.

Firm Natural Gas Service

High priority gas service in which the pipeline company is under contract to deliver a specified volume of gas to the customer on a non-interruptible basis. Residential and small commercial facilities usually fall into this category.

Interruptible Natural Gas Service

Low priority gas service in which the pipeline company has the contractual option to temporarily terminate deliveries to customers by reason of claim of firm service customers or higher priority users. Large commercial facilities, industrial users, and electric utilities usually fall into this category.

Jet Fuel

Includes both naphtha-type and kerosine-type fuels meeting standards for use in aircraft turbine engines. Although most jet fuel is used in aircraft, some is used for other purposes, such as for generating electricity in gas turbines.

Jobber

A petroleum distributor who purchases refined product from a refiner or terminal operator for the purpose of reselling to retail outlets and commercial accounts or for the purpose of retailing through his own retail outlets.

Jobber Margin

The difference between the price at which a jobber purchases refined product from a refiner or terminal operator and the price at which the jobber sells to retail outlets. This does not reflect margins obtained by jobbers through retail sales or commercial accounts.

Jobber Price

The price at which a petroleum jobber purchases refined product from a refiner or terminal operator.

Landed Cost

The cost of imported crude oil equal to actual cost of crude at point of origin plus transportation cost to the United States.

Line Miles of Seismic Exploration

The distance along the earth's surface that is covered by seismic traverses.

Motor Gasoline Production

Total production of motor gasoline by refineries, measured at refinery outlet. Relatively small quantities of motor gasoline are produced at natural gas processing plants, but these quantities are not included.

Motor Gasoline Stocks

Primary motor gasoline stocks held by gasoline producers. Stocks at natural gas processing plants are not included.

Natural Gas Imports

This is based on data collected by the Federal Power Commission from major interstate pipeline companies.

Natural Gas Liquids

Products obtained from natural gasoline plants, cycling plants, and fractionators after processing the natural gas. Included are ethane, liquified petroleum (LP) gases (propane, butane, and propane-butane mixtures), natural gasoline, plant condensate, and minor quantities of finished products such as gasoline, special naphthas, jet fuel, kerosine, and distillate fuel oil.

Natural Gas Marketed Production

Gross withdrawals from the ground, less gas used for repressuring and quantities vented and flared. Gas volumes are reported at a base pressure of 14.73 pounds per square inch absolute at 60°F. Data are from Bureau of Mines and are collected from reports received from the Interstate Oil Compact Commission provided by State agencies.

New Oil

The volume of domestic crude petroleum produced from a property in a specific month which exceeds the base production control level for that property.

Old Oil

Same as controlled crude oil.

Primary Stocks of Refined Petroleum Products

Stocks held at refineries, bulk terminals, and pipelines. They do not include stocks held in secondary storage facilities, such as those held by jobbers, dealers, independent marketers, and consumers.

Refiner Acquisition Cost

The cost to the refiner, including transportation and fees, of crude petroleum. The composite cost is the average of domestic and imported crude costs and represents the amount of crude cost which refiners may pass on to their customers.

Released Oil

That portion of the base production control level for a property which is equal to the volume of new oil produced in that month and which may be sold above the ceiling price. The amount of released oil may not exceed the base production control level for that property.

Residual Fuel Oil

The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as ASTM grades Nos. 5 and 6 oil, heavy diesel oil, Navy Special Oil, Bunker C oil, and acid sludge and pitch used as refiner fuels. Residual fuel oil is used for the production of electric power, for heating, and for various industrial purposes.

Rotary Rig

Machine used for drilling wells that employs a rotating tube attached to a bit for boring holes through rock.

Separative Work Unit (SWU)

The measure of work required to produce enriched uranium from natural uranium. Enrichment plants separate natural uranium feed material into two groups, an enriched product group with a higher percentage of U-235 than the feed material and a depleted tails group with a lower percentage of U-235 than the feed material. To produce 1 kilogram of enriched uranium containing 2.8 percent U-235, and a depleted tails assay containing 0.3 percent U-235, it requires 6 kilograms of natural

uranium feed and 3 kilograms of separative work units (3 SWU).

Stripper Well Lease

A property of which the average daily production of crude petroleum and petroleum condensates, including natural gas liquids, per well did not exceed 10 barrels per day during the preceding calendar year.

Total Refined Petroleum Products Imports

Imports of motor gasoline, naphtha-type jet fuel, kerosine-type jet fuel, liquified petroleum gases, kerosine, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, and asphalt. Imports of bonded bunkers, jet fuel, distillate and residual fuel oils for onshore military use, and receipts from Puerto Rico, the Virgin Islands, and Guam are based on data reported to the Oil Import Administration of FEA.

Well

Hole drilled for the purpose of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas. Wells are classified as oil wells, gas wells, dry holes, stratigraphic tests, or service wells. This is a standard definition of the American Petroleum Institute.

Explanatory Notes

- 1. Domestic production of energy includes production of crude oil and lease condensate, natural gas (wet), and coal (anthracite, bituminous, and lignite), as well as electricity output from hydroelectric and nuclear power-plants and industrial hydroelectric power production. The volumetric data were converted to approximate heat contents (Btu-values) of the various energy sources using conversion factors listed in the Units of Measure.
- 2. Domestic consumption of energy includes domestic demand for refined petroleum products, consumption of coal (anthracite, bituminous, and lignite) and natural gas (dry), electricity output from hydroelectric and nuclear powerplants, industrial hydroelectric power production, and imports of electric power. Approximate heat contents (Btu-values) were derived using conversion factors listed in the Units of Measure. Electricity imports were converted using the Btu-content of hydroelectric power. 1975 electricity imports were estimated on the basis of imports levels during 1974.
- 3. Graphic presentations of petroleum volumetric data show Bureau of Mines (BOM) figures for 1973 through February 1975 and FEA (or API when noted) figures for March 1975 forward. FEA monthly data for May 1974 through March 1975 were based on the Weekly Petroleum Statistics Report which presented volumetric data on domestic petroleum receipts and imports for all refiners and bulk terminal operators, as well as production and stock levels for each major petroleum product. In April 1975, the FEA weekly report was replaced by the Monthly Petroleum Statistics Report which presents essentially the same data on a monthly basis.

Conceptually, the major difference between FEA and BOM data occurs in the "Stocks" series. Stock levels reported by FEA for the major petroleum products are higher than those reported by BOM, because the FEA series includes stocks of independent terminal operators not counted by BOM. Beginning in December 1974, however, BOM data reflect the inclusion of approximately 100 additional bulk terminals in the coverage of primary stocks, bringing the data base for the 2 series into closer agreement.

In the current issue, cumulative 1972, 1973, and 1974 petroleum data presented in the text are based on BOM figures. Discussions of cumulative 1975 data are based on BOM figures for January and February, FEA figures for March and April, and API figures for May.

4. Domestic demand figures for natural gas liquids (NGL) as reported by BOM and reproduced in this

volume do not include amounts utilized at refineries for blending purposes in the production of finished products, principally gasoline. Consumption of NGL at refineries for this purpose has remained at a fairly constant level since 1972 of around 700,000 850,000 barrels per day. NGL domestic demand statistics do incorporate, however, some liquefied gases produced at refineries (LRG) which are used for fuel and petrochemical feedstocks. The NGL production and stock series reported in this volume include only those liquids obtained from or held as stocks at natural gas processing plants and do not incorporate minor quantities of these liquids produced and/or held as stocks at refineries.

- 5. Bituminous coal and lignite consumption data reported by the Bureau of Mines are derived from information provided by the Federal Power Commission, Department of Commerce, and reports from selected manufacturing industries and retailers. Domestic consumption data in this series, therefore, approximate actual consumption. This is in contrast to domestic demand reported for petroleum products, which is a calculated value representing total disappearance from primary supplies.
- 6. Bituminous coal and lignite production is calculated from the number of railroad cars loaded at mines, based on the assumption that approximately 60 percent of the coal produced is transported by rail. Production data are estimated by the Bureau of Mines from Association of American Railroads reports of carloadings.
- 7. Quantities of uranium are measured by various units at different stages in the fuel cycle. At the mill, quantities are usually expressed as pounds or short tons of U_3O_8 . After the conversion stage, the units of measure are either metric tons (MT) of UF $_6$ or metric tons of uranium (MTU). The latter designation expresses only the elemental uranium content of UF $_6$.

Following the enrichment stage, the same units are used, but the U-235 content has been enhanced at the expense of loss of material. At the fabrication stage, UF_6 is changed to UO_2 , and the standard unit of measure is the MTU. We have chosen to present all uranium quantities as MTU; conversion factors to other units are given in the section on Units of Measure.

8. The units used to describe power generation at nuclear plants are all based on the watt, which is a unit of power. (Power is energy produced per unit of time.) As with fossil-fueled plants, nuclear plants have three design power ratings. The thermal rating (expressed in thermal megawatts) is the rate of heat production by the reactor

core. The gross electrical rating (expressed in electrical megawatts, MWe) is the generator capacity at the stated thermal rating of the plant. The net electrical rating (also expressed in MWe) is the power available as input to the electrical grid after subtracting the power needed to operate the plant. (A typical nuclear plant needs 5 percent of its generated electricity for its own operation.)

The electrical energy produced by a plant is expressed either as megawatt hours (MWhe) or kilowatt hours (KWhe). Tables in the nuclear section show generated electricity as average electrical power. This enables a more direct comparison to design capacity and to previous months' performances. To obtain the quantity of electricity generated during a given time period (in megawatt hours), multiply the average power level (in megawatts) by the number of hours during that period.

The energy extracted from uranium fuel is expressed as thermal megawatt days per metric ton of uranium (MWD/MTU). The production of plutonium in the fuel rods is expressed as kilograms of plutonium per metric ton of discharged uranium (kg/MTU).

- 9. While FEA's forecasts of demand for the major products have proved to be reasonably good, the forecasts for "other" products have been consistently low which similarly affects the forecast for total refined products. When planned revisions to the forecasts are incorporated, it is expected that the forecast for total demand will be reduced by several hundred thousand barrels per day.
- 10. Monthly mileage estimates for 1974 and 1975 are based on the average number of miles traversed per crew day in 1974.
- 11. Prior to January 1975, diesel fuel prices were obtained from retail gasoline dealers that also sold diesel fuel. Beginning in January 1975, the diesel fuel survey was expanded to include selected truck stops plus additional retail gasoline dealers that sold diesel fuel. Consequently, diesel fuel prices for January 1975 forward are not exactly comparable to prior data. Selling price estimates are based on a survey of 31 cities. Margins are based on a survey of 10 cities.
- 12. The refiner acquisition cost of imported crude petroleum is the average landed cost of imported crude petroleum to the refiner and represents the amount which may be passed on to the consumer. The estimated landed cost of imported crude petroleum from selected countries does not represent the total cost of all imported crude. Imported crude costs to U.S. company-owned refineries in the Caribbean are not included in the landed cost, and costs of crude petroleum from countries which export only small amounts to the U.S. are also excluded.

13. The weighted average utility fuel cost for the total United States includes distillate fuel oil delivered to utilities whereas the regional breakdown for residual fuel oil prices represents only No. 6 fuel oil prices.

Units of Measure

Weight

1 metric ton contains 1.102 short tons

Conversion Factors for Crude Oil

Average gravity

1 barrel (42 weighs 0.136 metric tons qallons) (0.150 short tons)

1 metric ton contains 7.33 barrels
1 short ton contains 6.65 barrels

Conversion Factors for Uranium

1 short ton (U_3O_8) contains 0.769 metric tons of uranium 1 short ton (UF_6) contains 0.613 metric tons of uranium 1 metric ton (UF_6) contains 0.676 metric tons of uranium

5.800 million Btu/barrel

Approximate Heat Content of Various Fuels

Petroleum

Crude oil

Refined products
Imports, average
Consumption, average
Gasoline
Jet fuel, average
Naphtha-type

6.000 million Btu/barrel
5.517 million Btu/barrel
5.248 million Btu/barrel
5.592 million Btu/barrel
5.355 million Btu/barrel

Jet fuel, average 5.592 million Btu/barrel
Naphtha-type 5.355 million Btu/barrel
Kerosine-type 5.670 million Btu/barrel
Distillate fuel oil 5.825 million Btu/barrel
Residual fuel oil 6.287 million Btu/barrel
Natural gas liquids 4.031 million Btu/barrel

Natural gas

Wet 1,093 Btu/cubic foot
Dry 1,021 Btu/cubic foot

Coal

Bituminous and lignite

Production 24.01 million Btu/short ton Consumption 23.65 million Btu/short ton Anthracite 25.40 million Btu/short ton

Electricity Conversion Heat Rates

Fossil fuel steam-electric

Coal 10,176 Btu/kilowatt hour Gas 10,733 Btu/kilowatt hour Oil 10,826 Btu/kilowatt hour Nuclear steam-electric 10,660 Btu/kilowatt hour Hydroelectric 10,389 Btu/kilowatt hour Electricity Consumption 3,412 Btu/kilowatt hour

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